

## Sequence Listing

<110> Ashkenazi, Avi J.  
Baker, Kevin P.  
Botstein, David  
Desnoyers, Luc  
Eaton, Dan L.  
Ferrara, Napoleone  
Fong, Sherman  
Gerber, Hanspeter  
Gerritsen, Mary E.  
Goddard, Audrey  
Godowski, Paul J.  
Grimaldi, J. Christopher  
Gurney, Austin L.  
Kljavin, Ivar J.  
Napier, Mary A.  
Pan, James  
Paoni, Nicholas F.  
Roy, Margaret Ann  
Stewart, Timothy A.  
Tumas, Daniel  
Watanabe, Colin K.  
Williams, P. Mickey  
Wood, William I.  
Zhang, Zemin

<120> Secreted and Transmembrane Polypeptides and Nucleic  
Acids Encoding the Same

<130> P2730P1C44

<150> 60/049787

<151> 1997-06-16

<150> 60/062250

<151> 1997-10-17

<150> 60/065186

<151> 1997-11-12

<150> 60/065311

<151> 1997-11-13

<150> 60/066770

<151> 1997-11-24

<150> 60/075945

<151> 1998-02-25

<150> 60/078910

<151> 1998-03-20

<150> 60/083322

<151> 1998-04-28

<150> 60/084600

<151> 1998-05-07

<150> 60/087106

<151> 1998-05-28

<150> 60/087607



<151> 1998-06-10

<150> 60/088826

<151> 1998-06-10

<150> 60/088858

<151> 1998-06-11

<150> 60/088861

<151> 1998-06-11

<150> 60/088876

<151> 1998-06-11

<150> 60/089105

<151> 1998-06-12

<150> 60/089440

<151> 1998-06-16

<150> 60/089512

<151> 1998-06-16

<150> 60/089514

<151> 1998-06-16

<150> 60/089532

<151> 1998-06-17

<150> 60/089538

<151> 1998-06-17

<150> 60/089598

<151> 1998-06-17

<150> 60/089599

<151> 1998-06-17

<150> 60/089600

<151> 1998-06-17

<150> 60/089653

<151> 1998-06-17

<150> 60/089801

<151> 1998-06-18

<150> 60/089907

<151> 1998-06-18

<150> 60/089908

<151> 1998-06-18

<150> 60/089947

<151> 1998-06-19

<150> 60/089948

<151> 1998-06-19

<150> 60/089952

<151> 1998-06-19

<150> 60/090246

<151> 1998-06-22  
 <150> 60/090252  
 <151> 1998-06-22  
 <150> 60/090254  
 <151> 1998-06-22  
 <150> 60/090349  
 <151> 1998-06-23  
 <150> 60/090355  
 <151> 1998-06-23  
 <150> 60/090429  
 <151> 1998-06-24  
 <150> 60/090431  
 <151> 1998-06-24  
 <150> 60/090435  
 <151> 1998-06-24  
 <150> 60/090444  
 <151> 1998-06-24  
 <150> 60/090445  
 <151> 1998-06-24  
 <150> 60/090472  
 <151> 1998-06-24  
 <150> 60/090535  
 <151> 1998-06-24  
 <150> 60/090540  
 <151> 1998-06-24  
 <150> 60/090542  
 <151> 1998-06-24  
 <150> 60/090557  
 <151> 1998-06-24  
 <150> 60/090676  
 <151> 1998-06-25  
 <150> 60/090678  
 <151> 1998-06-25  
 <150> 60/090690  
 <151> 1998-06-25  
 <150> 60/090694  
 <151> 1998-06-25  
 <150> 60/090695  
 <151> 1998-06-25  
 <150> 60/090696  
 <151> 1998-06-25  
 <150> 60/090862





<151> 1998-08-04  
<150> 60/095301  
<151> 1998-08-04  
  
<150> 60/095325  
<151> 1998-08-04  
  
<150> 60/095916  
<151> 1998-08-10  
  
<150> 60/095929  
<151> 1998-08-10  
  
<150> 60/096012  
<151> 1998-08-10  
  
<150> 60/096143  
<151> 1998-08-11  
  
<150> 60/096146  
<151> 1998-08-11  
  
<150> 60/096329  
<151> 1998-08-12  
  
<150> 60/096757  
<151> 1998-08-17  
  
<150> 60/096766  
<151> 1998-08-17  
  
<150> 60/096768  
<151> 1998-08-17  
  
<150> 60/096773  
<151> 1998-08-17  
  
<150> 60/096791  
<151> 1998-08-17  
  
<150> 60/096867  
<151> 1998-08-17  
  
<150> 60/096891  
<151> 1998-08-17  
  
<150> 60/096894  
<151> 1998-08-17  
  
<150> 60/096895  
<151> 1998-08-17  
  
<150> 60/096897  
<151> 1998-08-17  
  
<150> 60/096949  
<151> 1998-08-18  
  
<150> 60/096950  
<151> 1998-08-18  
  
<150> 60/096959



<151> 1999-07-07  
 <150> 60/144758  
 <151> 1999-07-20  
 <150> 60/145698  
 <151> 1999-07-26  
 <150> 60/146222  
 <151> 1999-07-28  
 <150> 60/149396  
 <151> 1999-08-17  
 <150> 60/158663  
 <151> 1999-10-08  
 <150> 60/213637  
 <151> 2000-06-23  
 <150> 60/230978  
 <151> 2000-09-07  
 <150> 08/743698  
 <151> 1996-11-06  
 <150> 08/876698  
 <151> 1997-06-16  
 <150> 08/965056  
 <151> 1997-11-05  
 <150> 09/105413  
 <151> 1998-06-26  
 <150> 09/168978  
 <151> 1998-10-07  
 <150> 09/187368  
 <151> 1998-11-06  
 <150> 09/202054  
 <151> 1998-12-07  
 <150> 09/218517  
 <151> 1998-12-22  
 <150> 09/254311  
 <151> 1999-03-03  
 <150> 09/254460  
 <151> 1999-03-09  
 <150> 09/267213  
 <151> 1999-03-12  
 <150> 09/284291  
 <151> 1999-04-12  
 <150> 09/380137  
 <151> 1999-08-25  
 <150> 09/380138

<151> 1998-08-25  
<150> 09/380139  
<151> 1999-08-25  
  
<150> 09/403296  
<151> 1999-10-18  
  
<150> 09/423844  
<151> 1999-11-12  
  
<150> 09/664610  
<151> 2000-09-18  
  
<150> 09/665350  
<151> 2000-09-18  
  
<150> 09/709238  
<151> 2000-11-08  
  
<150> 09/808689  
<151> 2001-03-14  
  
<150> 09/854816  
<151> 2001-05-15  
  
<150> 09/866028  
<151> 2001-05-25  
  
<150> 09/866034  
<151> 2001-05-25  
  
<150> 09/872035  
<151> 2001-06-01  
  
<150> 09/882636  
<151> 2001-06-14  
  
<150> 09/941,992  
<151> 2001-08-28  
  
<150> PCT/US97/20069  
<151> 1997-11-05  
  
<150> PCT/US98/19330  
<151> 1998-09-16  
  
<150> PCT/US98/19437  
<151> 1998-09-17  
  
<150> PCT/US98/21141  
<151> 1998-10-07  
  
<150> PCT/US98/25108  
<151> 1998-12-01  
  
<150> PCT/US99/00106  
<151> 1999-01-05  
  
<150> PCT/US99/05028  
<151> 1999-03-08  
  
<150> PCT/US99/12252

<151> 1999-06-02  
<150> PCT/US99/21090  
<151> 1999-09-15  
<150> PCT/US99/21547  
<151> 1999-09-15  
<150> PCT/US99/28313  
<151> 1999-11-30  
<150> PCT/US99/28301  
<151> 1999-12-01  
<150> PCT/US99/28634  
<151> 1999-12-01  
<150> PCT/US99/30095  
<151> 1999-12-16  
<150> PCT/US99/30911  
<151> 1999-12-20  
<150> PCT/US00/00219  
<151> 2000-01-05  
<150> PCT/US00/00376  
<151> 2000-01-06  
<150> PCT/US00/03565  
<151> 2000-02-11  
<150> PCT/US00/04341  
<151> 2000-02-18  
<150> PCT/US00/04414  
<151> 2000-02-22  
<150> PCT/US00/04914  
<151> 2000-02-24  
<150> PCT/US00/05004  
<151> 2000-02-24  
<150> PCT/US00/05841  
<151> 2000-03-02  
<150> PCT/US00/06319  
<151> 2000-03-10  
<150> PCT/US00/06884  
<151> 2000-03-15  
<150> PCT/US00/07377  
<151> 2000-03-20  
<150> PCT/US00/08439  
<151> 2000-03-30  
<150> PCT/US00/13358  
<151> 2000-05-15  
<150> PCT/US00/13705

<151> 2000-05-17

<150> PCT/US00/14042

<151> 2000-05-22

<150> PCT/US00/14941

<151> 2000-05-30

<150> PCT/US00/15264

<151> 2000-06-02

<150> PCT/US00/20710

<151> 2000-07-28

<150> PCT/US00/22031

<151> 2000-08-11

<150> PCT/US00/23522

<151> 2000-08-23

<150> PCT/US00/23328

<151> 2000-08-24

<150> PCT/US00/30952

<151> 2000-11-08

<150> PCT/US00/32678

<151> 2000-12-01

<150> PCT/US01/06520

<151> 2001-02-28

<150> PCT/US01/17800

<151> 2001-06-01

<150> PCT/US01/19692

<151> 2001-06-20

<150> PCT/US01/21066

<151> 2001-06-29

<150> PCT/US01/21735

<151> 2001-07-09

<160> 532

<210> 1

<211> 1943

<212> DNA

<213> Homo sapiens

<400> 1

cggacgcgtg ggtgcgaggc gaaggtgacc ggggaccgag catttcagat 50

ctgctcggtg gacctggtgc accaccacca tgttggtgctgc aaggctggtg 100

tgtctccgga cactaccttc taggggttttc caccagctt tcaccaaggc 150

ctcccctggt gtgaagaatt ccatcacgaa gaatcaatgg ctgttaacac 200

ctagcaggga atatgccacc aaaacaagaa ttgggatccg gcggtgggaga 250

actggccaag aactcaaaga ggcagcattg gaaccatcga tggaaaaaat 300

atttaaaatt gatcagatgg gaagatgggt tgttgctgga ggggctgctg 350  
 ttggtcttgg agcattgtgc tactatgggt tgggactgtc taatgagatt 400  
 ggagctattg aaaaggctgt aatttggcct cagtatgtca aggatagaat 450  
 tcattccacc tatatgtact tagcagggag tattggttta acagctttgt 500  
 ctgccatagc aatcagcaga acgcctgttc tcatgaactt catgatgaga 550  
 ggctcttggg tgacaattgg tgtgacctt gcagccatgg ttggagctgg 600  
 aatgctggta cgatcaatac catatgacca gagcccaggc ccaaagcatc 650  
 ttgcttgggt gctacattct ggtgtgatgg gtgcagtggg ggctcctctg 700  
 acaatattag ggggtcctct tctcatcaga gctgcatggg acacagctgg 750  
 cattgtggga ggctctcca ctgtggccat gtgtgcgccc agtgaaaagt 800  
 ttctgaacat ggggtgcacc ctgggagtg gctgggtct cgtctttgtg 850  
 tcctcattgg gatctatgtt tcttccact accaccgtgg ctggtgccac 900  
 tctttactca gtggcaatgt acgggtggatt agttcttttc agcatgttcc 950  
 ttctgtatga taccagaaa gtaatcaagc gtgcagaagt atcaccaatg 1000  
 tatggagttc aaaaatatga tccattaac tcgatgctga gtatctacat 1050  
 ggatacatta aatatattta tgcgagttgc aactatgctg gcaactggag 1100  
 gcaacagaaa gaaatgaagt gactcagctt ctggcttctc tgctacatca 1150  
 aatatcttgt ttaatggggc agatatgcat taaatagttt gtacaagcag 1200  
 ctttcgttga agtttagaag ataagaaaca tgtoatcata tttaaatgtt 1250  
 ccggtaatgt gatgcctcag gtctgccttt ttttctggag aataaatgca 1300  
 gtaatcctct cccaaataag cacacacatt ttcaattctc atgtttgagt 1350  
 gattttaaaa tgttttggtg aatgtgaaaa cttaaagttt tgtcatgaga 1400  
 atgtaagtct ttttctact ttaaaattta gtaggttcac tgagtaacta 1450  
 aaatttagca aacctgtgtt tgcataattt tttggagtgc agaattattg 1500  
 aattaatgtc ataagtgatt tggagctttg gttaaaggac cagagagaag 1550  
 gagtcacctg cagtcttttg tttttttaa tacttagaac ttagcacttg 1600  
 tgttattgat tagtgaggag ccagtaagaa acatctgggt atttggaaac 1650  
 aagtgtcat tgttacattc atttgctgaa ctttaacaaa ctgttcatcc 1700  
 tgaaacaggc acaggtgatg cattctcctg ctggttgctt tcagtgtctt 1750  
 cttccaata tagatgtggt catgtttgac ttgtacagaa tgtaaatcat 1800  
 acagagaatc cttgatggaa ttatatatgt gtgttttact tttgaatgtt 1850  
 acaaaaggaa ataacttta aactattctc aagagaaaat attcaaagca 1900



tgaaatatgt tgctttttcc agaatacaaa cagtatactc atg 1943

<210> 2

<211> 345

<212> PRT

<213> Homo sapiens

<400> 2

Met	Leu	Ala	Ala	Arg	Leu	Val	Cys	Leu	Arg	Thr	Leu	Pro	Ser	Arg	
1				5					10					15	
Val	Phe	His	Pro	Ala	Phe	Thr	Lys	Ala	Ser	Pro	Val	Val	Lys	Asn	
				20					25					30	
Ser	Ile	Thr	Lys	Asn	Gln	Trp	Leu	Leu	Thr	Pro	Ser	Arg	Glu	Tyr	
				35					40					45	
Ala	Thr	Lys	Thr	Arg	Ile	Gly	Ile	Arg	Arg	Gly	Arg	Thr	Gly	Gln	
				50					55					60	
Glu	Leu	Lys	Glu	Ala	Ala	Leu	Glu	Pro	Ser	Met	Glu	Lys	Ile	Phe	
				65					70					75	
Lys	Ile	Asp	Gln	Met	Gly	Arg	Trp	Phe	Val	Ala	Gly	Gly	Ala	Ala	
				80					85					90	
Val	Gly	Leu	Gly	Ala	Leu	Cys	Tyr	Tyr	Gly	Leu	Gly	Leu	Ser	Asn	
				95					100					105	
Glu	Ile	Gly	Ala	Ile	Glu	Lys	Ala	Val	Ile	Trp	Pro	Gln	Tyr	Val	
				110					115					120	
Lys	Asp	Arg	Ile	His	Ser	Thr	Tyr	Met	Tyr	Leu	Ala	Gly	Ser	Ile	
				125					130					135	
Gly	Leu	Thr	Ala	Leu	Ser	Ala	Ile	Ala	Ile	Ser	Arg	Thr	Pro	Val	
				140					145					150	
Leu	Met	Asn	Phe	Met	Met	Arg	Gly	Ser	Trp	Val	Thr	Ile	Gly	Val	
				155					160					165	
Thr	Phe	Ala	Ala	Met	Val	Gly	Ala	Gly	Met	Leu	Val	Arg	Ser	Ile	
				170					175					180	
Pro	Tyr	Asp	Gln	Ser	Pro	Gly	Pro	Lys	His	Leu	Ala	Trp	Leu	Leu	
				185					190					195	
His	Ser	Gly	Val	Met	Gly	Ala	Val	Val	Ala	Pro	Leu	Thr	Ile	Leu	
				200					205					210	
Gly	Gly	Pro	Leu	Leu	Ile	Arg	Ala	Ala	Trp	Tyr	Thr	Ala	Gly	Ile	
				215					220					225	
Val	Gly	Gly	Leu	Ser	Thr	Val	Ala	Met	Cys	Ala	Pro	Ser	Glu	Lys	
				230					235					240	
Phe	Leu	Asn	Met	Gly	Ala	Pro	Leu	Gly	Val	Gly	Leu	Gly	Leu	Val	
				245					250					255	
Phe	Val	Ser	Ser	Leu	Gly	Ser	Met	Phe	Leu	Pro	Pro	Thr	Thr	Val	
				260					265					270	
Ala	Gly	Ala	Thr	Leu	Tyr	Ser	Val	Ala	Met	Tyr	Gly	Gly	Leu	Val	

	275		280		285
Leu Phe Ser Met	Phe Leu Leu Tyr Asp	Thr Gln Lys Val Ile Lys			
	290	295			300
Arg Ala Glu Val	Ser Pro Met Tyr Gly	Val Gln Lys Tyr Asp Pro			
	305	310			315
Ile Asn Ser Met	Leu Ser Ile Tyr Met	Asp Thr Leu Asn Ile Phe			
	320	325			330
Met Arg Val Ala	Thr Met Leu Ala Thr	Gly Gly Asn Arg Lys Lys			
	335	340			345

<210> 3  
 <211> 43  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 3  
 tgtaaaacga cggccagtta aatagacctg caattattaa tct 43

<210> 4  
 <211> 41  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 4  
 caggaaacag ctatgaccac ctgcacaact gcaaattccat t 41

<210> 5  
 <211> 3033  
 <212> DNA  
 <213> Homo sapiens

<400> 5  
 gaaggctgcc tcgctggtcc gaattcgggtg ggcgccagtc cgcccgtctc 50  
 cgccttctgc atcgcggcctt cggcggcttc cacctagaca cctaacagtc 100  
 gcggagccgg ccgcgctcgtg aggggggtcgg cacggggagt cgggcggtct 150  
 tgtgcatcctt ggctacctgt gggtcgaaga tgtcggacat cggagactgg 200  
 ttcaggagca tcccggcgat cacgcgctat tggttcgccg ccaccgtcgc 250  
 cgtgcccttg gtcggcaaac tcggcctcat cagcccggcc tacctcttcc 300  
 tctggcccga agccttcctt tatcgctttc agatttggag gccaatcact 350  
 gccacctttt atttccttgt gggtcagga actggatttc tttatttgg 400  
 caatttatat ttcttatatc agtattctac gcgacttgaa acaggagctt 450  
 ttgatgggag gccagcagac tatttattca tgctcctctt taactggatt 500  
 tgcacgtgta ttactggcct agcaatggat atgcagttgc tgatgattcc 550

tctgatcatg tcagtacttt atgtctgggc ccagctgaac agagacatga 600  
ttgtatcatt ttggtttgga acacgattta aggcctgcta tttaccctgg 650  
gttatccttg gattcaacta tatcatcgga ggctcggtta tcaatgagct 700  
tattggaaat ctggttggac atctttatatt ttctctaattg ttcagatacc 750  
caatggactt gggaggaaga aattttctat ccacacctca gttttgtac 800  
cgctggctgc ccagtaggag aggaggagta tcaggatttg gtgtgcccc 850  
tgctagcatg aggcgagctg ctgatcagaa tggcggaggc gggagacaca 900  
actggggcca gggctttcga cttggagacc agtgaagggg cggcctcggg 950  
cagccgctcc tctcaagcca catttcctcc cagtgtctggg tgcacttaac 1000  
aactgcgttc tggctaacac tgttgacact gaccacact gaatgtagtc 1050  
tttcagtacg agacaaagtt tcttaaattcc cgaagaaaaa tataagtgtt 1100  
ccacaagttt cagcattctc attcaagtcc ttactgctgt gaagaacaaa 1150  
taccaactgt gcaaattgca aaactgacta ctttttttg tgtcttctct 1200  
tctccccctt cgtctgaat aatgggtttt agcgggtcct aatctgctgg 1250  
cattgagctg gggctgggtc accaaaccct tcccaaaagg accttatctc 1300  
tttcttgcac acatgcctct ctcccacttt tcccaacccc cacatttgca 1350  
actagaaaaa gttgcccata aaattgctct gcccttgaca ggttctgtta 1400  
tttattgact tttgccaagg ctggtcacaa caatcatatt cactttattt 1450  
tccccttttg gtggcagaac tgttaccaat agggggagaa gacagccacg 1500  
gatgaagcgt ttctcagctt ttggaattgc ttcgactgac atccgttggt 1550  
aaccgtttgc cactcttcag atatttttta taaaaaaagt accactgagt 1600  
tcatgagggc cacagattgg ttattaatga gatacgaggg ttggtgctgg 1650  
gtgtttgttt cctgagctaa gtgatcaaga ctgtagtgga gttgcagcta 1700  
acatgggtta ggtttaaacc atgggggatg caccctttg cgtttcataat 1750  
gtagccctac tggctttgtg tagctggagt agttgggttg ctttgtgtta 1800  
ggaggatcca gatcatgttg gctacaggga gatgctctct ttgagaggtc 1850  
ctgggcattg attccattt caatctcatt ctggatatgt gttcattgag 1900  
taaaggagga gagacctca tacgtattt aaatgtcact tttttgcta 1950  
tccccgctt tttggtcatg tttcaattaa ttgtgaggaa ggcgcagctc 2000  
ctctctgcac gtagatcatt ttttaaagct aatgtaagca catctaaggg 2050  
aataacatga ttaaggttg aaatggcttt agaatactt gggtttgagg 2100  
gtgtgttatt ttgagtcag aatgtacaag ctctgtgaat cagaccagct 2150

taaatacca cacctttttt tcgtaggtgg gcttttctta tcagagcttg 2200  
 gctcataacc aaataaagtt ttttgaaggc catggctttt cacacagtta 2250  
 ttttatttta tgacgttatc tgaaagcaga ctggttaggag cagtattgag 2300  
 tggctgtcac actttgaggc aactaaaaag gcttcaaacg ttttgatcag 2350  
 tttcttttca ggaaacattg tgctctaaca gtatgactat tctttcccc 2400  
 actcttaaac agtgtgatgt gtgttatcct aggaaatgag agttggcaaa 2450  
 caacttctca ttttgaatag agtttgtgtg tacttctcca tatttaattt 2500  
 atatgataaa ataggtgggg agagtctgaa ccttaactgt catgttttgt 2550  
 tgttcacatg tggccacaat aaagtttact tgtaaaattt tagaggccat 2600  
 tactccaatt atgttgacg tacactcatt gtacaggcgt ggagactcat 2650  
 tgtatgtata agaataattc tgacagtgag tgaccoggag tctctggtgt 2700  
 accctcttac cagtcagctg cctgcgagca gtcatttttt cctaaagggt 2750  
 tacaagtatt tagaactttt cagttcaggg caaaatgttc atgaagttat 2800  
 tcctcttaaa catggttagg aagctgatga cgttattgat tttgtctgga 2850  
 ttatgtttct ggaataattt taccaaaaca agctatttga gttttgactt 2900  
 gacaaggcaa aacatgacag tggattctct ttacaaatgg aaaaaaaaaa 2950  
 tccttatttt gtataaagga cttccctttt tgtaaaactaa tcctttttat 3000  
 tggtaaaaat tgtaaatata aatgtgcaac ttg 3033

<210> 6  
 <211> 251  
 <212> PRT  
 <213> Homo sapiens

<400> 6  
 Met Ser Asp Ile Gly Asp Trp Phe Arg Ser Ile Pro Ala Ile Thr  
 1 5 10 15  
 Arg Tyr Trp Phe Ala Ala Thr Val Ala Val Pro Leu Val Gly Lys  
 20 25 30  
 Leu Gly Leu Ile Ser Pro Ala Tyr Leu Phe Leu Trp Pro Glu Ala  
 35 40 45  
 Phe Leu Tyr Arg Phe Gln Ile Trp Arg Pro Ile Thr Ala Thr Phe  
 50 55 60  
 Tyr Phe Pro Val Gly Pro Gly Thr Gly Phe Leu Tyr Leu Val Asn  
 65 70 75  
 Leu Tyr Phe Leu Tyr Gln Tyr Ser Thr Arg Leu Glu Thr Gly Ala  
 80 85 90  
 Phe Asp Gly Arg Pro Ala Asp Tyr Leu Phe Met Leu Leu Phe Asn  
 95 100 105

Trp	Ile	Cys	Ile	Val	Ile	Thr	Gly	Leu	Ala	Met	Asp	Met	Gln	Leu
				110					115					120
Leu	Met	Ile	Pro	Leu	Ile	Met	Ser	Val	Leu	Tyr	Val	Trp	Ala	Gln
				125					130					135
Leu	Asn	Arg	Asp	Met	Ile	Val	Ser	Phe	Trp	Phe	Gly	Thr	Arg	Phe
				140					145					150
Lys	Ala	Cys	Tyr	Leu	Pro	Trp	Val	Ile	Leu	Gly	Phe	Asn	Tyr	Ile
				155					160					165
Ile	Gly	Gly	Ser	Val	Ile	Asn	Glu	Leu	Ile	Gly	Asn	Leu	Val	Gly
				170					175					180
His	Leu	Tyr	Phe	Phe	Leu	Met	Phe	Arg	Tyr	Pro	Met	Asp	Leu	Gly
				185					190					195
Gly	Arg	Asn	Phe	Leu	Ser	Thr	Pro	Gln	Phe	Leu	Tyr	Arg	Trp	Leu
				200					205					210
Pro	Ser	Arg	Arg	Gly	Gly	Val	Ser	Gly	Phe	Gly	Val	Pro	Pro	Ala
				215					220					225
Ser	Met	Arg	Arg	Ala	Ala	Asp	Gln	Asn	Gly	Gly	Gly	Gly	Arg	His
				230					235					240
Asn	Trp	Gly	Gln	Gly	Phe	Arg	Leu	Gly	Asp	Gln				
				245					250					

<210> 7  
 <211> 1373  
 <212> DNA  
 <213> Homo sapiens

<400> 7  
 ggggccgcgg tctagggcgg ctacgtgtgt tgccatagcg accattttgc 50  
 attaactggt tggtagcttc tatcctgggg gctgagcgac tgccggccag 100  
 ctcttccctt actccctctc ggctccttgt ggcccaaagg cctaaccggg 150  
 gtccggcggt ctggcctagg gatcttcccc gttgcccctt tggggcgagg 200  
 tggctgcgga agaagaagac gaggtggagt gggtagtgga gagcatcgcg 250  
 gggttcctgc gaggcccaga ctgggtccatc cccatcttgg actttgtgga 300  
 acagaaatgt gaagttaact gcaaaggagg gcatgtgata actccaggaa 350  
 gccagagcc ggtgatcttg gtggcctgtg ttccccttgt ttttgatgat 400  
 gaagaagaaa gcaaatgac ctatacagag attcatcagg aatacaaaga 450  
 actagttgaa aagctgttag aaggttacct caaagaaatt ggaattaatg 500  
 aagatcaatt tcaagaagca tgcacttctc ctcttgcaaa gaccataca 550  
 tcacaggcca ttttgcaacc tgtgttggca gcagaagatt ttactatctt 600  
 taaagcaatg atggtccaga aaaacattga aatgcagctg caagccatto 650  
 gaataattca agagagaaat ggtgtattac ctgactgctt aaccgatggc 700

tctgatgtgg tcagtgcacct tgaacacgaa gagatgaaaa tcctgagggg 750  
 agttcttaga aaatcaaaag aggaatatga ccaggaagaa gaaaggaaga 800  
 ggaaaaaaca gttatcagag gctaaaacag aagagcccac agtgcattcc 850  
 agtgaagctg caataatgaa taattcccaa ggggatgggtg aacattttgc 900  
 acaccacccc tcagaagtta aaatgcattt tgctaatacag tcaatagaac 950  
 ctttgggaag aaaagtggaa aggtctgaaa cttcctccct cccacaaaaa 1000  
 ggctgaaga ttcttggtt agagcatgag agcattgaag gaccaatagc 1050  
 aaacttatca gtacttgga cagaagaact tcggcaacga gaacactatc 1100  
 tcaagcagaa gagagataag ttgatgtcca tgagaaagga tatgaggact 1150  
 aaacagatac aaaatatgga gcagaaagga aaaccactg gggaggtaga 1200  
 ggaaatgaca gagaaaccag aaatgacagc agaggagaag caaacattac 1250  
 taaagaggag attgcttgca gagaaactca aagaagaagt tattaataag 1300  
 taataattaa gaacaattta acaaaatgga agttcaaatt gtcttaaaaa 1350  
 taaattattt agtccttaca ctg 1373

<210> 8  
 <211> 367  
 <212> PRT  
 <213> Homo sapiens

<400> 8  
 Met Ala Ala Glu Glu Glu Asp Glu Val Glu Trp Val Val Glu Ser  
 1 5 10 15  
 Ile Ala Gly Phe Leu Arg Gly Pro Asp Trp Ser Ile Pro Ile Leu  
 20 25 30  
 Asp Phe Val Glu Gln Lys Cys Glu Val Asn Cys Lys Gly Gly His  
 35 40 45  
 Val Ile Thr Pro Gly Ser Pro Glu Pro Val Ile Leu Val Ala Cys  
 50 55 60  
 Val Pro Leu Val Phe Asp Asp Glu Glu Glu Ser Lys Leu Thr Tyr  
 65 70 75  
 Thr Glu Ile His Gln Glu Tyr Lys Glu Leu Val Glu Lys Leu Leu  
 80 85 90  
 Glu Gly Tyr Leu Lys Glu Ile Gly Ile Asn Glu Asp Gln Phe Gln  
 95 100 105  
 Glu Ala Cys Thr Ser Pro Leu Ala Lys Thr His Thr Ser Gln Ala  
 110 115 120  
 Ile Leu Gln Pro Val Leu Ala Ala Glu Asp Phe Thr Ile Phe Lys  
 125 130 135  
 Ala Met Met Val Gln Lys Asn Ile Glu Met Gln Leu Gln Ala Ile  
 140 145 150

Arg	Ile	Ile	Gln	Glu	Arg	Asn	Gly	Val	Leu	Pro	Asp	Cys	Leu	Thr	
				155					160					165	
Asp	Gly	Ser	Asp	Val	Val	Ser	Asp	Leu	Glu	His	Glu	Glu	Met	Lys	
				170					175					180	
Ile	Leu	Arg	Glu	Val	Leu	Arg	Lys	Ser	Lys	Glu	Glu	Tyr	Asp	Gln	
				185					190					195	
Glu	Glu	Glu	Arg	Lys	Arg	Lys	Lys	Gln	Leu	Ser	Glu	Ala	Lys	Thr	
				200					205					210	
Glu	Glu	Pro	Thr	Val	His	Ser	Ser	Glu	Ala	Ala	Ile	Met	Asn	Asn	
				215					220					225	
Ser	Gln	Gly	Asp	Gly	Glu	His	Phe	Ala	His	Pro	Pro	Ser	Glu	Val	
				230					235					240	
Lys	Met	His	Phe	Ala	Asn	Gln	Ser	Ile	Glu	Pro	Leu	Gly	Arg	Lys	
				245					250					255	
Val	Glu	Arg	Ser	Glu	Thr	Ser	Ser	Leu	Pro	Gln	Lys	Gly	Leu	Lys	
				260					265					270	
Ile	Pro	Gly	Leu	Glu	His	Ala	Ser	Ile	Glu	Gly	Pro	Ile	Ala	Asn	
				275					280					285	
Leu	Ser	Val	Leu	Gly	Thr	Glu	Glu	Leu	Arg	Gln	Arg	Glu	His	Tyr	
				290					295					300	
Leu	Lys	Gln	Lys	Arg	Asp	Lys	Leu	Met	Ser	Met	Arg	Lys	Asp	Met	
				305					310					315	
Arg	Thr	Lys	Gln	Ile	Gln	Asn	Met	Glu	Gln	Lys	Gly	Lys	Pro	Thr	
				320					325					330	
Gly	Glu	Val	Glu	Glu	Met	Thr	Glu	Lys	Pro	Glu	Met	Thr	Ala	Glu	
				335					340					345	
Glu	Lys	Gln	Thr	Leu	Leu	Lys	Arg	Arg	Leu	Leu	Ala	Glu	Lys	Leu	
				350					355					360	
Lys	Glu	Glu	Val	Ile	Asn	Lys									
				365											

<210> 9  
 <211> 418  
 <212> DNA  
 <213> Homo sapiens

<400> 9  
 gggcacagca catgtgaagt ttttgatgat gaagaagaaa gcaaattgac 50  
 ctatacagag attcatcagg aatacaaaga actagttgaa aagctgttag 100  
 aaggttacct caaagaaatt ggaattaatg aagatcaatt tcaagaagca 150  
 tgcacttctc ctcttgcaaa gaccataca tcacaggcca tttttgcaac 200  
 ctgtgttggc agcagaagat ttactatct ttaaagcaat gatggtccag 250  
 aaaaacattg aaatgcagct gcaagccatt cgaataattc aagagagaaa 300

tggtgtatta cctgactgct taaccgatgg ctctgatgtg gtcagtgacc 350  
ttgaacacga agagatgaaa atcctgaggg aagttcttag aaaatcaaaa 400  
gaggaatatg accaggaa 418

<210> 10  
<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 10  
ttgacctata cagagattca tc 22

<210> 11  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 11  
ctaagaactt ccctcaggat ttt 23

<210> 12  
<211> 40  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 12  
atgaagatca atttcaagaa gcatgcactt ctctcttgc 40

<210> 13  
<211> 2886  
<212> DNA  
<213> Homo sapiens

<400> 13  
gcgtggtttt tgttctgcaa taggcggctt agaggagggt gctttttcgc 50  
ctatacctac tgtagcttct ccacgatgg accctaaagg ctactgctgc 100  
tactacgggg ctagacagtt actgtctcag ctctaggatg tgcgttcttc 150  
cactagaagc tcttctgagg gaggttaatta aaaaacagtg gaatggaaaa 200  
acagtgtgt agtcatcctg taatatgctc cttgtcaaca atgtatacat 250  
tctgtctagg tgccatattc attgctttaa gctcaagtcg catcttacta 300  
gtgaagtatt ctgccaatga agaaaacaag tatgattatc ttccaactac 350  
tgtgaatgtg tgctcagaac tgggtgaagct agttttctgt gtgcttgtgt 400  
cattctgtgt tataaagaaa gatcatcaaa gtagaaattt gaaatatgct 450



tcctggaagg aattctctga tttcatgaag tggccattc ctgcctttct 500  
 ttatttcctg gataacttga ttgtcttcta tgcctgtcc tatcttcaac 550  
 cagccatggc tgttatcttc tcaaatttta gcattataac aacagctctt 600  
 ctattcagga tagtgctgaa gaggcgtcta aactggatcc agtgggcttc 650  
 cctcctgact ttatttttgt ctattgtggc cttgactgcc gggactaaaa 700  
 ctttacagca caacttggca ggacgtggat ttcacacga tgcctttttc 750  
 agcccttcca attcctgcct tcttttcaga agtgagtgtc ccagaaaaga 800  
 caattgtaca gcaaaggaat ggacttttcc tgaagctaaa tggaacacca 850  
 cagccagagt tttcagtcac atccgtcttg gcatgggcca tgttcttatt 900  
 atagtccagt gttttatttc ttcaatggct aatatctata atgaaaagat 950  
 actgaaggag gggaaccagc tactgaaag catcttcata cagaacagca 1000  
 aactctatth ctttggcatt ctgtttaatg ggctgactct gggccttcag 1050  
 aggagtaacc gtgatcagat taagaactgt ggattttttt atggccacag 1100  
 tgcattttca gtagccctta tttttgtaac tgcattccag ggcctttcag 1150  
 tggctttcat tctgaagttc ctggataaca tgttccatgt cttgatggcc 1200  
 caggttacca ctgtcattat cacaacagtgt tctgtcctgg tctttgactt 1250  
 caggccctcc ctggaatttt tcttgaagc cccatcagtc cttctctcta 1300  
 tattttatth taatgccagc aagcctcaag ttccggaata cgcacctagg 1350  
 caagaaagga tccgagatct aagtggcaat ctttgggagc gttccagtgg 1400  
 ggatggagaa gaactagaaa gacttaccaa acccaagagt gatgagtcag 1450  
 atgaagatac tttctaactg gtaccacat agtttgcagc tctcttgaac 1500  
 cttattttca cattttcagt gtttgtaata tttatctttt cactttgata 1550  
 aaccagaaat gtttctaaat cctaattatc tttgcatata tctagctact 1600  
 ccctaaatgg ttccatcaa ggcttagagt acccaaaggc taagaaattc 1650  
 taaagaactg atacaggagt aacaatatga agaattcatt aatatctcag 1700  
 tacttgataa atcagaaagt tatatgtgca gattattttc cttggccttc 1750  
 aagcttccaa aaaacttgta ataatcatgt tagctatagc ttgtatatac 1800  
 acatagagat caatttgcca aatattcaca atcatgtagt tctagtttac 1850  
 atgccaaagt cttccctttt taacattata aaagctaggt tgtctcttga 1900  
 attttgaggc ctagagata gtcattttgc aagtaaagag caacgggacc 1950  
 ctttctaaaa acgttggttg aaggacctaa atacctggcc ataccataga 2000  
 tttgggatga tgtagtctgt gctaaatatt ttgctgaaga agcagtttct 2050

cagacacaac atctcagaat ttttaattttt agaaattcat gggaaattgg 2100  
 atttttgtaa taatcttttg atgttttaaa cattgggtcc ctagtcacca 2150  
 tagttaccac ttgtatttta agtcatttaa acaagccacg gtggggcttt 2200  
 tttctcctca gtttgaggag aaaaatcttg atgtcattac tcctgaatta 2250  
 ttacattttg gagaataaga gggcatttta ttttattagt tactaattca 2300  
 agctgtgact attgtatata tttccaagag ttgaaatgct ggcttcagaa 2350  
 tcataccaga ttgtcagtga agctgatgcc taggaacttt taaagggatc 2400  
 ctttcaaaag gatcacttag caaacacatg ttgactttta actgatgtat 2450  
 gaatattaat actctaaaaa tagaaagacc agtaatatat aagtcacttt 2500  
 acagtgttac ttcacactta aaagtgcattg gtattttttca tggatatttg 2550  
 catgcagcca gttaactctc gtagatagag aagtcaggtg atagatgata 2600  
 ttaaaaatta gcaaacaaaa gtgacttgct cagggtcatg cagctgggtg 2650  
 atgatagaag agtgggcttt aactggcagg cctgtatgtt tacagactac 2700  
 catactgtaa atatgagctt tatgggtgtca ttctcagaaa cttatacatt 2750  
 tctgctctcc tttctcctaa gtttcatgca gatgaatata aggtaatata 2800  
 ctattatata attcattttg gatatccaca ataatatgac tggcaagaat 2850  
 tgggtggaaat ttgtaattaa aataattatt aaacct 2886

<210> 14

<211> 424

<212> PRT

<213> Homo sapiens

<400> 14

Met	Glu	Lys	Gln	Cys	Cys	Ser	His	Pro	Val	Ile	Cys	Ser	Leu	Ser
1				5					10					15
Thr	Met	Tyr	Thr	Phe	Leu	Leu	Gly	Ala	Ile	Phe	Ile	Ala	Leu	Ser
				20					25					30
Ser	Ser	Arg	Ile	Leu	Leu	Val	Lys	Tyr	Ser	Ala	Asn	Glu	Glu	Asn
				35					40					45
Lys	Tyr	Asp	Tyr	Leu	Pro	Thr	Thr	Val	Asn	Val	Cys	Ser	Glu	Leu
				50					55					60
Val	Lys	Leu	Val	Phe	Cys	Val	Leu	Val	Ser	Phe	Cys	Val	Ile	Lys
				65					70					75
Lys	Asp	His	Gln	Ser	Arg	Asn	Leu	Lys	Tyr	Ala	Ser	Trp	Lys	Glu
				80					85					90
Phe	Ser	Asp	Phe	Met	Lys	Trp	Ser	Ile	Pro	Ala	Phe	Leu	Tyr	Phe
				95					100					105
Leu	Asp	Asn	Leu	Ile	Val	Phe	Tyr	Val	Leu	Ser	Tyr	Leu	Gln	Pro
				110					115					120

Ala	Met	Ala	Val	Ile	Phe	Ser	Asn	Phe	Ser	Ile	Ile	Thr	Thr	Ala	
				125					130					135	
Leu	Leu	Phe	Arg	Ile	Val	Leu	Lys	Arg	Arg	Leu	Asn	Trp	Ile	Gln	
				140					145					150	
Trp	Ala	Ser	Leu	Leu	Thr	Leu	Phe	Leu	Ser	Ile	Val	Ala	Leu	Thr	
				155					160					165	
Ala	Gly	Thr	Lys	Thr	Leu	Gln	His	Asn	Leu	Ala	Gly	Arg	Gly	Phe	
				170					175					180	
His	His	Asp	Ala	Phe	Phe	Ser	Pro	Ser	Asn	Ser	Cys	Leu	Leu	Phe	
				185					190					195	
Arg	Ser	Glu	Cys	Pro	Arg	Lys	Asp	Asn	Cys	Thr	Ala	Lys	Glu	Trp	
				200					205					210	
Thr	Phe	Pro	Glu	Ala	Lys	Trp	Asn	Thr	Thr	Ala	Arg	Val	Phe	Ser	
				215					220					225	
His	Ile	Arg	Leu	Gly	Met	Gly	His	Val	Leu	Ile	Ile	Val	Gln	Cys	
				230					235					240	
Phe	Ile	Ser	Ser	Met	Ala	Asn	Ile	Tyr	Asn	Glu	Lys	Ile	Leu	Lys	
				245					250					255	
Glu	Gly	Asn	Gln	Leu	Thr	Glu	Ser	Ile	Phe	Ile	Gln	Asn	Ser	Lys	
				260					265					270	
Leu	Tyr	Phe	Phe	Gly	Ile	Leu	Phe	Asn	Gly	Leu	Thr	Leu	Gly	Leu	
				275					280					285	
Gln	Arg	Ser	Asn	Arg	Asp	Gln	Ile	Lys	Asn	Cys	Gly	Phe	Phe	Tyr	
				290					295					300	
Gly	His	Ser	Ala	Phe	Ser	Val	Ala	Leu	Ile	Phe	Val	Thr	Ala	Phe	
				305					310					315	
Gln	Gly	Leu	Ser	Val	Ala	Phe	Ile	Leu	Lys	Phe	Leu	Asp	Asn	Met	
				320					325					330	
Phe	His	Val	Leu	Met	Ala	Gln	Val	Thr	Thr	Val	Ile	Ile	Thr	Thr	
				335					340					345	
Val	Ser	Val	Leu	Val	Phe	Asp	Phe	Arg	Pro	Ser	Leu	Glu	Phe	Phe	
				350					355					360	
Leu	Glu	Ala	Pro	Ser	Val	Leu	Leu	Ser	Ile	Phe	Ile	Tyr	Asn	Ala	
				365					370					375	
Ser	Lys	Pro	Gln	Val	Pro	Glu	Tyr	Ala	Pro	Arg	Gln	Glu	Arg	Ile	
				380					385					390	
Arg	Asp	Leu	Ser	Gly	Asn	Leu	Trp	Glu	Arg	Ser	Ser	Gly	Asp	Gly	
				395					400					405	
Glu	Glu	Leu	Glu	Arg	Leu	Thr	Lys	Pro	Lys	Ser	Asp	Glu	Ser	Asp	
				410					415					420	
Glu	Asp	Thr	Phe												

<210> 15  
<211> 755  
<212> DNA  
<213> Homo sapiens

<400> 15  
cgtgcctgcg caatgggtgt cgggtccgct ttttcccaat ccggacgtaa 50  
tcgtgggtttt tggtctgcaa taggcggctt agagggaggg gctttttcgc 100  
ctatacctac tgtagcttct ccacgtatgg accctaaagg ctactgctgc 150  
tactacgggg ctagacagtt actgtctcag ctctaggatg tgcgtttcttc 200  
cactagaagc tcttctgagg gaggtaatta aaaaacagtg gaatggaaaa 250  
acagtgctgt agtcatcctg taatatgctc cttgtcaaca atgtatacat 300  
tcctgctagg tgccatattc attgctttaa gctcaagtcg catcttacta 350  
gtgaagtatt ctgccaatga agaaaacaag tatgattatc ttccaactac 400  
tgtgaatgtg tgctcagaac tgggtgaagct agttttctgt gtgcttgtgt 450  
cattctgtgt tataaagaaa gatcatcaaa gtagaaattt gaaatatgct 500  
tcctggaagg aattctctga ttcatgaag tgggccattc ctgcctttct 550  
ttatttctctg gataacttga ttgtcttcta tgtcctgtcc tatcttcaac 600  
cagccatggc tggtatcttc tcaaatttta gcattataac aacagctctt 650  
ctattcagga tagtgctgaa gaggcgtcta aactggatcc agtgggcttc 700  
cctcctgact ttatttttgt ctattgtggc cttgactgcc gggactaaaa 750  
cttta 755

<210> 16  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 16  
ctatacctac tgtagcttct 20

<210> 17  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 17  
tcagagaatt ccttcagga 20

<210> 18  
<211> 40  
<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 18

acagtgtgtg agtcatcctg taatatgctc cttgtcaaca 40

<210> 19

<211> 2142

<212> DNA

<213> Homo sapiens

<400> 19

cggacgcgtg ggcggacgcg tgggcggacg cgtggggccg gcttggctag 50  
cgcgcgggcg ccgtggctaa ggctgctacg aagcgagctt gggaggagca 100  
gcggcctgcg gggcagagga gcatcccgctc taccaggtcc caagcggcgt 150  
ggcccgcggg tcatggccaa aggagaaggc gccgagagcg gctccgcggc 200  
ggggctgcta cccaccagca tcctccaaag cactgaacgc ccggcccagg 250  
tgaagaaaga accgaaaaag aagaaacaac agttgtctgt ttgcaacaag 300  
ctttgctatg cacttggggg agccccctac caggtgacgg gctgtgccct 350  
gggtttcttc cttcagatct acctattgga tgtggctcag gtgggccctt 400  
tctctgcctc catcatcctg tttgtgggcc gagcctggga tgccatcaca 450  
gacccctggg tgggcctctg catcagcaaa tccccctgga cctgcctggg 500  
tcgccttatg ccctggatca tcttctccac gccctggcc gtcattgcct 550  
acttctcat ctggttcgtg cccgacttcc cacacggcca gacctattgg 600  
tacctgcttt tctattgcct ctttgaaaca atggtcacgt gtttccatgt 650  
tccctactcg gctctcacca tgttcatcag caaccgagca gactgagcgg 700  
gattctgcca ccgcctatcg gatgactgtg gaagtgtctg gcacagtgt 750  
gggcacggcg atccaggac aaatcgtggg ccaagcagac acgccttggt 800  
tccaggactt caatagctct acagtagctt caciaagtgc caaccataca 850  
catggcacca cttcacacag ggaaacgcaa aaggcatacc tgctggcagc 900  
gggggtcatt gtctgtatct atataatctg tgctgtcatt ctgatcctgg 950  
gcgtgcggga gcagagagaa ccctatgaag ccagcagtc tgagccaatc 1000  
gcctacttcc ggggcctacg gctggtcatt agccaaggcc catacatcaa 1050  
acttattact ggcttctctc tcacctcctt ggctttcatg ctgggtggagg 1100  
ggaactttgt cttgttttgc acctacacct tgggcttccg caatgaattc 1150  
cagaatctac tcctggccat catgctctcg gccactttaa ccattcccat 1200  
ctggcagtgg ttcttgacct gggttgga gaagacagct gtatatgttg 1250

ggatctcatc agcagtgcc tttctcatct tgggtggcct catggagagt 1300  
 aacctcatca ttacatatgc ggtagctgtg gcagctggca tcagtgtggc 1350  
 agctgccttc ttactaccct ggtccatgct gcctgatgtc attgacgact 1400  
 tccatctgaa gcagccccac ttccatggaa ccgagcccat cttcttctcc 1450  
 ttctatgtct tcttcaccaa gtttgcctct ggagtgtcac tgggcatttc 1500  
 taccctcagt ctggactttg cagggtagca gaccogtggc tgctcgcagc 1550  
 cggaacgtgt caagtttaca ctgaacatgc tcgtgacctt ggctcccata 1600  
 gttctcatcc tgctgggcct gctgctcttc aaaatgtacc ccattgatga 1650  
 ggagaggcgg cggcagaata agaaggccct gcaggcactg agggacgagg 1700  
 ccagcagctc tggctgtctc gaaacagact ccacagagct ggctagcatc 1750  
 ctctagggcc cgccacgttg cccgaagcca ccatgcagaa ggccacagaa 1800  
 gggatcagga cctgtctgcc ggcttgctga gcagctggac tgcaggtgct 1850  
 aggaagggaa ctgaagactc aaggaggtag cccaggacac ttgctgtgct 1900  
 cactgtgggg ccggtgtctc tgtggcctcc tgctccctcc ctgctgcct 1950  
 gtggggccaa gccctggggc tgccactgtg aatatgccaa ggactgatcg 2000  
 ggcctagccc ggaacactaa ttagaaaacc ttttttttac agagcctaata 2050  
 taataactta atgactgtgt acatagcaat gtgtgtgtat gtatatgtct 2100  
 gtgagctatt aatgttatta attttcataa aagctggaaa gc 2142

<210> 20  
 <211> 458  
 <212> PRT  
 <213> Homo sapiens

<400> 20  
 Met Trp Leu Arg Trp Ala Leu Ser Leu Pro Pro Ser Ser Cys Leu  
 1 5 10 15  
 Trp Ala Glu Pro Gly Met Pro Ser Gln Thr Pro Trp Trp Ala Ser  
 20 25 30  
 Ala Ser Ala Asn Pro Pro Gly Pro Ala Trp Val Ala Leu Cys Pro  
 35 40 45  
 Gly Ser Ser Ser Pro Arg Pro Trp Pro Ser Leu Pro Thr Ser Ser  
 50 55 60  
 Ser Gly Ser Cys Pro Thr Ser His Thr Ala Arg Pro Ile Gly Thr  
 65 70 75  
 Cys Phe Ser Ile Ala Ser Leu Lys Gln Trp Ser Arg Val Ser Met  
 80 85 90  
 Phe Pro Thr Arg Leu Ser Pro Cys Ser Ser Ala Thr Glu Gln Thr  
 95 100 105

Glu	Arg	Asp	Ser	Ala	Thr	Ala	Tyr	Arg	Met	Thr	Val	Glu	Val	Leu
				110					115					120
Gly	Thr	Val	Leu	Gly	Thr	Ala	Ile	Gln	Gly	Gln	Ile	Val	Gly	Gln
				125					130					135
Ala	Asp	Thr	Pro	Cys	Phe	Gln	Asp	Phe	Asn	Ser	Ser	Thr	Val	Ala
				140					145					150
Ser	Gln	Ser	Ala	Asn	His	Thr	His	Gly	Thr	Thr	Ser	His	Arg	Glu
				155					160					165
Thr	Gln	Lys	Ala	Tyr	Leu	Leu	Ala	Ala	Gly	Val	Ile	Val	Cys	Ile
				170					175					180
Tyr	Ile	Ile	Cys	Ala	Val	Ile	Leu	Ile	Leu	Gly	Val	Arg	Glu	Gln
				185					190					195
Arg	Glu	Pro	Tyr	Glu	Ala	Gln	Gln	Ser	Glu	Pro	Ile	Ala	Tyr	Phe
				200					205					210
Arg	Gly	Leu	Arg	Leu	Val	Met	Ser	His	Gly	Pro	Tyr	Ile	Lys	Leu
				215					220					225
Ile	Thr	Gly	Phe	Leu	Phe	Thr	Ser	Leu	Ala	Phe	Met	Leu	Val	Glu
				230					235					240
Gly	Asn	Phe	Val	Leu	Phe	Cys	Thr	Tyr	Thr	Leu	Gly	Phe	Arg	Asn
				245					250					255
Glu	Phe	Gln	Asn	Leu	Leu	Leu	Ala	Ile	Met	Leu	Ser	Ala	Thr	Leu
				260					265					270
Thr	Ile	Pro	Ile	Trp	Gln	Trp	Phe	Leu	Thr	Arg	Phe	Gly	Lys	Lys
				275					280					285
Thr	Ala	Val	Tyr	Val	Gly	Ile	Ser	Ser	Ala	Val	Pro	Phe	Leu	Ile
				290					295					300
Leu	Val	Ala	Leu	Met	Glu	Ser	Asn	Leu	Ile	Ile	Thr	Tyr	Ala	Val
				305					310					315
Ala	Val	Ala	Ala	Gly	Ile	Ser	Val	Ala	Ala	Ala	Phe	Leu	Leu	Pro
				320					325					330
Trp	Ser	Met	Leu	Pro	Asp	Val	Ile	Asp	Asp	Phe	His	Leu	Lys	Gln
				335					340					345
Pro	His	Phe	His	Gly	Thr	Glu	Pro	Ile	Phe	Phe	Ser	Phe	Tyr	Val
				350					355					360
Phe	Phe	Thr	Lys	Phe	Ala	Ser	Gly	Val	Ser	Leu	Gly	Ile	Ser	Thr
				365					370					375
Leu	Ser	Leu	Asp	Phe	Ala	Gly	Tyr	Gln	Thr	Arg	Gly	Cys	Ser	Gln
				380					385					390
Pro	Glu	Arg	Val	Lys	Phe	Thr	Leu	Asn	Met	Leu	Val	Thr	Met	Ala
				395					400					405
Pro	Ile	Val	Leu	Ile	Leu	Leu	Gly	Leu	Leu	Leu	Phe	Lys	Met	Tyr
				410					415					420

Pro Ile Asp Glu Glu Arg Arg Arg Gln Asn Lys Lys Ala Leu Gln  
425 430 435

Ala Leu Arg Asp Glu Ala Ser Ser Ser Gly Cys Ser Glu Thr Asp  
440 445 450

Ser Thr Glu Leu Ala Ser Ile Leu  
455

<210> 21  
<211> 571  
<212> DNA  
<213> Homo sapiens

<400> 21  
gggaaacgca aaaggcatatc ctgctggcag cgggggtcat tgtctgtatc 50  
tatataatct gtgctgtcat cctgatcctg ggcgtgcggg agcagagaga 100  
accctatgaa gccagcagt ctgagccaat cgcctacttc cggggcctac 150  
ggctggtcac gagccacggc ccatacatca aacttattac tggcttcctc 200  
ttcacctcct tggctttcat gctggtggag gggaaactttg tcttgttttg 250  
cacctacacc ttgggcttcc gcaatgaatt ccagaatcta ctctggcca 300  
tcatgctctc ggccacttta accattccca tctggcagtg gttcttgacc 350  
cggtttggca agaagacagc tgtatatgtt gggatctcat cagcagtgcc 400  
atttctcatc ttggtggccc tcatggagag taacctcatc attacatatg 450  
cggtagctgt ggcagctggc atcagtggtg cagctgcctt cttactaccc 500  
tggtccatgc tgctgatgt cattgacgac ttccatctga agcagcccca 550  
cttccatgga accgagccca t 571

<210> 22  
<211> 1173  
<212> DNA  
<213> Homo sapiens

<400> 22  
ggggcttcgg cgccagcggc cagcgttagt cggctctggta aggatttaca 50  
aaaggtgcag gtatgagcag gtctgaagac taacattttg tgaagttgta 100  
aaacagaaaa cctgttagaa atgtggtggt ttacgaagg cctcagtttc 150  
cttccttcag cccttgtaat ttggacatct gctgctttca tattttcata 200  
cattactgca gtaacactcc accatataga cccggcttta cttatatca 250  
gtgacactgg tacagtagct ccagaaaaat gcttatttgg ggcaatgcta 300  
aatattgcgg cagttttatg cattgctacc atttatgttc gttataagca 350  
agttcatgct ctgagtcctg aagagaacgt tatcatcaaa ttaaacaagg 400  
ctggccttgt acttgaata ctgagttgtt taggactttc tattgtggca 450



aacttccaga aaacaaccct ttttgcgtgca catgtaagtg gagctgtgct 500  
taccttttgggt atggggtcat tatatatgtt tgttcagacc atccttttcc 550  
accaaattgca gcccaaaatc catggcaaac aagtcttctg gatcagactg 600  
ttgtttgggta tctgggtgtg agtaagtgc cttagcatgc tgacttgctc 650  
atcagttttg cacagtggga attttgggac tgatttagaa cagaaactcc 700  
attggaaccc cgaggacaaa ggttatgtgc ttcacatgat cactactgca 750  
gcagaatgggt ctatgtcatt ttccttcttt gggtttttcc tgacttacat 800  
tcgtgatttt cagaaaattt ctttacgggt ggaagccaat ttacatggat 850  
taaccctcta tgacactgca ctttgcccta ttaacaatga acgaacacgg 900  
ctactttcca gagatatttg atgaaaggat aaaatatttc tgtaatgatt 950  
atgattctca gggattgggg aaaggttcac agaagttgct tattcttctc 1000  
tgaaattttc aaccacttaa tcaaggctga cagtaacact gatgaatgct 1050  
gataatcagg aaacatgaaa gaagccattt gatagattat tctaaaggat 1100  
atcatcaaga agactattaa aaacacctat gcctatactt ttttatctca 1150  
gaaaataaag tcaaaagact atg 1173

<210> 23  
<211> 266  
<212> PRT  
<213> Homo sapiens

<400> 23  
Met Trp Trp Phe Gln Gln Gly Leu Ser Phe Leu Pro Ser Ala Leu  
1 5 10 15  
Val Ile Trp Thr Ser Ala Ala Phe Ile Phe Ser Tyr Ile Thr Ala  
20 25 30  
Val Thr Leu His His Ile Asp Pro Ala Leu Pro Tyr Ile Ser Asp  
35 40 45  
Thr Gly Thr Val Ala Pro Glu Lys Cys Leu Phe Gly Ala Met Leu  
50 55 60  
Asn Ile Ala Ala Val Leu Cys Ile Ala Thr Ile Tyr Val Arg Tyr  
65 70 75  
Lys Gln Val His Ala Leu Ser Pro Glu Glu Asn Val Ile Ile Lys  
80 85 90  
Leu Asn Lys Ala Gly Leu Val Leu Gly Ile Leu Ser Cys Leu Gly  
95 100 105  
Leu Ser Ile Val Ala Asn Phe Gln Lys Thr Thr Leu Phe Ala Ala  
110 115 120  
His Val Ser Gly Ala Val Leu Thr Phe Gly Met Gly Ser Leu Tyr  
125 130 135

Met	Phe	Val	Gln	Thr	Ile	Leu	Ser	Tyr	Gln	Met	Gln	Pro	Lys	Ile
				140					145					150
His	Gly	Lys	Gln	Val	Phe	Trp	Ile	Arg	Leu	Leu	Leu	Val	Ile	Trp
				155					160					165
Cys	Gly	Val	Ser	Ala	Leu	Ser	Met	Leu	Thr	Cys	Ser	Ser	Val	Leu
				170					175					180
His	Ser	Gly	Asn	Phe	Gly	Thr	Asp	Leu	Glu	Gln	Lys	Leu	His	Trp
				185					190					195
Asn	Pro	Glu	Asp	Lys	Gly	Tyr	Val	Leu	His	Met	Ile	Thr	Thr	Ala
				200					205					210
Ala	Glu	Trp	Ser	Met	Ser	Phe	Ser	Phe	Phe	Gly	Phe	Phe	Leu	Thr
				215					220					225
Tyr	Ile	Arg	Asp	Phe	Gln	Lys	Ile	Ser	Leu	Arg	Val	Glu	Ala	Asn
				230					235					240
Leu	His	Gly	Leu	Thr	Leu	Tyr	Asp	Thr	Ala	Pro	Cys	Pro	Ile	Asn
				245					250					255
Asn	Glu	Arg	Thr	Arg	Leu	Leu	Ser	Arg	Asp	Ile				
				260					265					

<210> 24  
 <211> 485  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 14, 484  
 <223> unknown base

<400> 24  
 cggacgcttg ggcngcgcca gcggccagcg ctagtcggtc tggtaagtgc 50  
 ctgatgccga gttccgtctc tcgggtcttt tcctggtccc aggcaaagcg 100  
 gagcggagat cctcaaacgg cctagtgttt cgcgcttcog gagaaaatca 150  
 gcggtctaata taattcctct ggtttgttga agcagttacc aagaatcttc 200  
 aaccctttcc cacaaaagct aattgagtac acgttcctgt tgagtacacg 250  
 ttctgttga tttacaaaag gtgcaggtat gagcaggtct gaagactaac 300  
 attttgtgaa gttgtaaaac agaaaacctg ttagaaatgt ggtggtttca 350  
 gcaaggcctc agtttccttc cttcagccct tgtaatttgg acatctgctg 400  
 ctttcatatt ttcatacatt actgcagtaa cactccacca tatagaccg 450  
 gctttacctt atatcagtga cactggtaca gtanc 485

<210> 25  
 <211> 40  
 <212> DNA  
 <213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 25  
acctgttaga aatgtggtgg ttccagcaag gcctcagttt 40

<210> 26  
<211> 46  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 26  
ggagatagct gctatgggtt cttcaggcac aacttaacat gggaag 46

<210> 27  
<211> 1399  
<212> DNA  
<213> Homo sapiens

<400> 27  
cccacgcgtc cgcccgccgc tgcgtcccgg agtgcaagtg agcttctcgg 50  
ctgccccgcg ggccgggggtg cggagccgac atgcgcccgc ttctcggcct 100  
ccttctggtc ttcgccgggt gcaccttcgc cttgtacttg ctgtcgacgc 150  
gactgccccg cgggcgagga ctgggctcca ccgaggaggc tggaggcagg 200  
tcgctgtggt tcccctccga cctggcagag ctgcgggagc tctctgaggt 250  
ccttcgagag taccggaagg agcaccaggc ctacgtgttc ctgctcttct 300  
gcggcgccta cctctacaaa cagggctttg ccatcccogg ctccagcttc 350  
ctgaatgttt tagctggtgc cttgtttggg ccatggctgg ggcttctgct 400  
gtgctgtgtg ttgacctcgg tgggtgccac atgctgctac ctgctctcca 450  
gtatttttgg caaacagttg gtgggtgtcct actttcctga taaagtggcc 500  
ctgctgcaga gaaaggtgga ggagaacaga aacagcttgt tttttttctt 550  
attgtttttg agacttttcc ccatgacacc aaactgggtc ttgaacctct 600  
cggccccaat tctgaacatt cccatcgtgc agttcttctt ctcaagttctt 650  
atcggtttga tcccatataa tttcatctgt gtgcagacag ggtccatcct 700  
gtcaacccta acctctctgg atgctctttt ctctgggac actgtcttta 750  
agctgttggc cattgccatg gtggcattaa ttcttggaac cctcattaaa 800  
aaatttagtc agaaaacatc gcaattgaat gaaacaagta ctgctaata 850  
tatacacagt agaaaagaca catgatctgg attttctgtt tgccacatcc 900  
ctggactcag ttgcttattt gtgtaatgga tgtggtoctc taaagcccct 950  
cattgttttt gattgccttc tataggatgat gtggacactg tgcataatg 1000

tgcagtgtct tttcagaaag gacactctgc tcttgaaggt gtattacatc 1050  
 aggttttcaa accagccctg gtgtagcaga cactgcaaca gatgcctcct 1100  
 agaaaatgct gtttgtggcc gggcgcggtg gctcacgcct gtaatcccag 1150  
 cactttggga ggccgaggcc ggtgattcac aaggtcagga gttcaagacc 1200  
 agcctggcca agatggtgaa atcctgtctc taataaaaat acaaaaatta 1250  
 gccaggcgtg gtggcaggca cctgtaatcc cagctactcg ggaggctgag 1300  
 gcaggagaat tgcttgaacc aaggtggcag aggttgcagt aagccaagat 1350  
 cacaccactg cactccagcc tgggtgatag agtgagacac tgtcttgac 1399

<210> 28

<211> 264

<212> PRT

<213> Homo sapiens

<400> 28

Met	Arg	Pro	Leu	Leu	Gly	Leu	Leu	Leu	Val	Phe	Ala	Gly	Cys	Thr	1	5	10	15
Phe	Ala	Leu	Tyr	Leu	Leu	Ser	Thr	Arg	Leu	Pro	Arg	Gly	Arg	Arg	20	25	30	
Leu	Gly	Ser	Thr	Glu	Glu	Ala	Gly	Gly	Arg	Ser	Leu	Trp	Phe	Pro	35	40	45	
Ser	Asp	Leu	Ala	Glu	Leu	Arg	Glu	Leu	Ser	Glu	Val	Leu	Arg	Glu	50	55	60	
Tyr	Arg	Lys	Glu	His	Gln	Ala	Tyr	Val	Phe	Leu	Leu	Phe	Cys	Gly	65	70	75	
Ala	Tyr	Leu	Tyr	Lys	Gln	Gly	Phe	Ala	Ile	Pro	Gly	Ser	Ser	Phe	80	85	90	
Leu	Asn	Val	Leu	Ala	Gly	Ala	Leu	Phe	Gly	Pro	Trp	Leu	Gly	Leu	95	100	105	
Leu	Leu	Cys	Cys	Val	Leu	Thr	Ser	Val	Gly	Ala	Thr	Cys	Cys	Tyr	110	115	120	
Leu	Leu	Ser	Ser	Ile	Phe	Gly	Lys	Gln	Leu	Val	Val	Ser	Tyr	Phe	125	130	135	
Pro	Asp	Lys	Val	Ala	Leu	Leu	Gln	Arg	Lys	Val	Glu	Glu	Asn	Arg	140	145	150	
Asn	Ser	Leu	Phe	Phe	Phe	Leu	Leu	Phe	Leu	Arg	Leu	Phe	Pro	Met	155	160	165	
Thr	Pro	Asn	Trp	Phe	Leu	Asn	Leu	Ser	Ala	Pro	Ile	Leu	Asn	Ile	170	175	180	
Pro	Ile	Val	Gln	Phe	Phe	Phe	Ser	Val	Leu	Ile	Gly	Leu	Ile	Pro	185	190	195	
Tyr	Asn	Phe	Ile	Cys	Val	Gln	Thr	Gly	Ser	Ile	Leu	Ser	Thr	Leu	200	205	210	

Thr	Ser	Leu	Asp	Ala	Leu	Phe	Ser	Trp	Asp	Thr	Val	Phe	Lys	Leu
				215					220					225
Leu	Ala	Ile	Ala	Met	Val	Ala	Leu	Ile	Pro	Gly	Thr	Leu	Ile	Lys
				230					235					240
Lys	Phe	Ser	Gln	Lys	His	Leu	Gln	Leu	Asn	Glu	Thr	Ser	Thr	Ala
				245					250					255
Asn	His	Ile	His	Ser	Arg	Lys	Asp	Thr						
				260										

<210> 29  
 <211> 1292  
 <212> DNA  
 <213> Homo sapiens

<400> 29  
 ccgaggcgagg agggagcccgga gggggcgcgga gcccgcgcatg aatcattgta 50  
 gtcaatcatt ttccagttct cagccgctca gttgtgatca agggacacgt 100  
 ggtttccgaa ctgccagctc agaataggaa aataacttgg gattttatat 150  
 tggaagacat ggatcttgct gccaacgaga tcagcattta tgacaaactt 200  
 tcagagactg ttgatttggg gagacagacc ggccatcagt gtggcatgtc 250  
 agagaaggca attgaaaaat ttatcagaca gctgctggaa aagaatgaac 300  
 ctgagagacc cccccgcgag taccctctcc ttatagttgt gtataagggt 350  
 ctgcgaacct tgggattaat cttgctcact gcctactttg tgattcaacc 400  
 tttcagccca ttagcacctg agccagtgtt ttctggagct cacacctggc 450  
 gctcactcat ccatcacatt aggctgatgt ccttgcccat tgccaagaag 500  
 tacatgtcag aaaataaggg agttcctctg catgggggtg atgaagacag 550  
 accctttcca gactttgacc cctgggtggac aaacgactgt gagcagaatg 600  
 agtcagagcc cattcctgcc aactgcactg gctgtgcca gaaacacctg 650  
 aaggtgatgc tcctggaaga cggcccaagg aaatttgaga ggctccatcc 700  
 actggtgatc aagacgggaa agccctgtt ggaggaagag attcagcatt 750  
 ttttgtgcca gtaccctgag gcgacagaag gcttctctga agggtttttc 800  
 gccaaagtggg ggcgctgctt tcctgagcgg tggttcccat ttcttatcc 850  
 atggaggaga cctctgaaca gatcacaat gttacgtgag ctttttctg 900  
 ttttcaactca cctgccattt ccaaagatg cctctttaa caagtgtcc 950  
 tttcttcacc cagaacctgt tgtggggagt aagatgcata agatgcctga 1000  
 cctattttatc attggcagcg gtgaggccat gttgcagctc atccctccct 1050  
 tccagtgccg aagacattgt cagtctgtg ccatgccaat agagccaggg 1100  
 gatatcggct atgtcgacac caccactgg aaggtctacg ttatagccag 1150

aggggtccag cctttggtca tctgcatgg aaccgtttc tcagaactgt 1200  
 aggaaataga actgtgcaca ggaacagctt ccagagccga aaaccagggt 1250  
 gaaaggggaa aaataaaaaac aaaaacgatg aaactgcaaa aa 1292

<210> 30  
 <211> 347  
 <212> PRT  
 <213> Homo sapiens

<400> 30  
 Met Asp Leu Ala Ala Asn Glu Ile Ser Ile Tyr Asp Lys Leu Ser  
 1 5 10 15  
 Glu Thr Val Asp Leu Val Arg Gln Thr Gly His Gln Cys Gly Met  
 20 25 30  
 Ser Glu Lys Ala Ile Glu Lys Phe Ile Arg Gln Leu Leu Glu Lys  
 35 40 45  
 Asn Glu Pro Gln Arg Pro Pro Pro Gln Tyr Pro Leu Leu Ile Val  
 50 55 60  
 Val Tyr Lys Val Leu Ala Thr Leu Gly Leu Ile Leu Leu Thr Ala  
 65 70 75  
 Tyr Phe Val Ile Gln Pro Phe Ser Pro Leu Ala Pro Glu Pro Val  
 80 85 90  
 Leu Ser Gly Ala His Thr Trp Arg Ser Leu Ile His His Ile Arg  
 95 100 105  
 Leu Met Ser Leu Pro Ile Ala Lys Lys Tyr Met Ser Glu Asn Lys  
 110 115 120  
 Gly Val Pro Leu His Gly Gly Asp Glu Asp Arg Pro Phe Pro Asp  
 125 130 135  
 Phe Asp Pro Trp Trp Thr Asn Asp Cys Glu Gln Asn Glu Ser Glu  
 140 145 150  
 Pro Ile Pro Ala Asn Cys Thr Gly Cys Ala Gln Lys His Leu Lys  
 155 160 165  
 Val Met Leu Leu Glu Asp Ala Pro Arg Lys Phe Glu Arg Leu His  
 170 175 180  
 Pro Leu Val Ile Lys Thr Gly Lys Pro Leu Leu Glu Glu Glu Ile  
 185 190 195  
 Gln His Phe Leu Cys Gln Tyr Pro Glu Ala Thr Glu Gly Phe Ser  
 200 205 210  
 Glu Gly Phe Phe Ala Lys Trp Trp Arg Cys Phe Pro Glu Arg Trp  
 215 220 225  
 Phe Pro Phe Pro Tyr Pro Trp Arg Arg Pro Leu Asn Arg Ser Gln  
 230 235 240  
 Met Leu Arg Glu Leu Phe Pro Val Phe Thr His Leu Pro Phe Pro  
 245 250 255

Lys	Asp	Ala	Ser	Leu	Asn	Lys	Cys	Ser	Phe	Leu	His	Pro	Glu	Pro
				260					265					270
Val	Val	Gly	Ser	Lys	Met	His	Lys	Met	Pro	Asp	Leu	Phe	Ile	Ile
				275					280					285
Gly	Ser	Gly	Glu	Ala	Met	Leu	Gln	Leu	Ile	Pro	Pro	Phe	Gln	Cys
				290					295					300
Arg	Arg	His	Cys	Gln	Ser	Val	Ala	Met	Pro	Ile	Glu	Pro	Gly	Asp
				305					310					315
Ile	Gly	Tyr	Val	Asp	Thr	Thr	His	Trp	Lys	Val	Tyr	Val	Ile	Ala
				320					325					330
Arg	Gly	Val	Gln	Pro	Leu	Val	Ile	Cys	Asp	Gly	Thr	Ala	Phe	Ser
				335					340					345

Glu Leu

<210> 31  
 <211> 478  
 <212> DNA  
 <213> Homo sapiens

<400> 31  
 ccacggtgtc cgttcttcgc ccggcggcag ctgtccccga ggcgggagga 50  
 gcccagaggg cgcgagcccc gcatgaatca ttgtagtcaa tcattttcca 100  
 gttctcagcc gttcagttgt gatcaaggga cacgtggttt ccgaactgcc 150  
 agctcagaat aggaaaataa cttgggattt tatattggaa gacatggatc 200  
 ttgctgccaa cgagatcagc atttatgaca aactttcaga gactgttgat 250  
 ttggtgagac agaccggcca tcagtgtggc atgtcagaga aggcaattga 300  
 aaaatttatc agacagctgc tggaaaagaa tgaacctcag agaccccccc 350  
 cgcagtatcc tctccttata gttgtgtata aggttctcgc aaccttgga 400  
 ttaatcttgc tcaactgcta ctttgtgatt caacctttca gcccattagc 450  
 acctgagcca gtgctttgtg gagctcac 478

<210> 32  
 <211> 3531  
 <212> DNA  
 <213> Homo sapiens

<400> 32  
 cccacgcgtc cgcccacgcg tccggctgaa cacctcttct ttggagtcag 50  
 ccactgatga ggcagggtcc ccacttgagc ctgcagcagc tgcagcagct 100  
 gcagagcgct gtcctggct ggtgccactg gtgcgcacgc tgctagaccg 150  
 tgcctatgag ccgctggggc tgcagtgggg actgcctcc ctgccacca 200  
 ccaatggcag cccacacctc tttgaagact tccaggcttt ttgtgccaca 250

cccgaatggc gccacttcat cgacaaacag gtacagccaa ccatgtccca 300  
 gttcgaaatg gacacgtatg ctaagagcca cgaccttatg tcaggtttct 350  
 ggaatgcctg ctatgacatg cttatgagca gtgggcagcg gcgccagtgg 400  
 gagcgcgccc agagtcgtcg ggccttccag gagctggtgc tggaacctgc 450  
 gcagaggcgg gcgcgcctgg aggggctacg ctacacggca gtgctgaagc 500  
 agcaggcaac gcagcactcc atggccctgc tgcaactgggg ggcgctgtgg 550  
 cgccagctcg ccagcccatg tggggcctgg gcgctgaggg acactcccat 600  
 cccccgctgg aaactgtcca gcgccgagac atattcacgc atgcgtctga 650  
 agctggtgcc caaccatcac ttcgacctc acctggaagc cagcgctctc 700  
 cgagacaatc tgggtgaggt tcccctgaca cccaccgagg aggcctcact 750  
 gcctctggca gtgaccaaag aggccaaagt gagcacccca cccgagttgc 800  
 tgcaggagga ccagctcggc gaggacgagc tggtgagct ggagaccccg 850  
 atggaggcag cagaactgga tgagcagcgt gagaagctgg tgctgtcggc 900  
 cgagtgccag ctggtgacgg tagtggccgt ggtcccaggg ctgctggagg 950  
 tcaccacaca gaatgtatac ttctacgatg gcagcactga gcgcgtggaa 1000  
 accgaggagg gcatcggcta tgatttccgg cgcctactgg ccagctgcg 1050  
 tgagggtcac ctgcggcgtt tcaacctgcg ccgttcagca cttgagctct 1100  
 tctttatcga tcaggccaac tacttccctca acttcccatg caagggtgggc 1150  
 acgaccccag tctcatctcc tagccagact ccgagacccc agcctggccc 1200  
 catcccaccc catacccagg tacggaacca ggtgtactcg tggctcctgc 1250  
 gcctacggcc cccctctcaa ggctacctaa gcagccgctc ccccaggag 1300  
 atgctgcgtg cctcaggcct taccagaaa tgggtacagc gtgagatata 1350  
 caacttcgag tacttgatgc aactcaacac cattgcgggg cggacctaca 1400  
 atgacctgtc tcagtacct gtgttcccct gggctcctgca ggactacgtg 1450  
 tccccaaacc tggacctcag caaccagacc gtcttccggg acctgtctaa 1500  
 gccatcgggt gtggtgaacc ccaagcatgc ccagctcgtg agggagaagt 1550  
 atgaaagctt tgaggacca gcagggacca ttgacaagtt ccaactatggc 1600  
 acccactact ccaatgcagc aggcgtgatg cactacctca tccgcgtgga 1650  
 gcccttcacc tcctgcacg tccagctgca aagtggcgcg tttgactgct 1700  
 ccgaccggca gttccactcg gtggcggcag cctggcaggc acgcctggag 1750  
 agccctgccg atgtgaagga gctcatcccg gaattcttct actttcctga 1800  
 cttcctggag aaccagaacg gttttgacct gggctgtctc cagctgacca 1850



acgagaaggt aggcgatgtg gtgctacccc cgtgggccag ctctcctgag 1900  
 gacttcatcc agcagcaccg ccaggctctg gagtcggagt atgtgtctgc 1950  
 acacctacac gagtggatcg acctcatctt tggctacaag cagcgggggc 2000  
 cagccgccga ggaggccctc aatgtcttct attactgcac ctatgagggg 2050  
 gctgtagacc tggaccatgt gacagatgag cgggaacgga aggctctgga 2100  
 gggcattatc agcaactttg ggcagactcc ctgtcagctg ctgaaggagc 2150  
 cacatccaac tcggctctca gctgaggaag cagcccatcg ccttgcacgc 2200  
 ctggacacta actcacctag catcttccag cacctggacg aactcaaggc 2250  
 attcttcgca gaggtgactg tgagtgccag tgggctgctg ggcaccaca 2300  
 gctggttgcc ctatgaccgc aacataagca actacttcag cttcagcaaa 2350  
 gacccacca tgggcagcca caagacgcag cgactgctga gtggcccgtg 2400  
 ggtgccaggc agtgggtgta gtggacaagc actggcagtg gccccggatg 2450  
 gaaagctgct attcagcggg gccactggg atggcagcct gcgggtgact 2500  
 gcactacccc gtggcaagct gttgagccag ctcagctgcc accttgatgt 2550  
 agtaacctgc cttgcactgg acacctgtgg catctacctc atctcaggct 2600  
 cccgggacac cacgtgcatg gtgtggcggc tcctgcatca ggggtggtctg 2650  
 tcagtaggcc tggcaccaaa gcctgtgcag gtcctgtatg ggcattggggc 2700  
 tgacgtgagc tgtgtggcca tcagcactga acttgacatg gctgtgtctg 2750  
 gatctgagga tggaactgtg atcatacaca ctgtacgccg cggacagttt 2800  
 gtagcggcac tacggcctct gggtgccaca ttccctggac ctattttcca 2850  
 cctggcattg gggctccgaag gccagattgt ggtacagagc tcagcgtggg 2900  
 aacgtcctgg ggcccaggtc acctactcct tgcacctgta ttcagtcaat 2950  
 ggggaagtgc gggcttcaact gccctggca gagcagccta cagccctgac 3000  
 ggtgacagag gactttgtgt tgctgggcac cgcccagtgc gccctgcaca 3050  
 tcctccaact aaacacactg ctcccgccg cgctccctt gccatgaag 3100  
 gtggccatcc gcagcgtggc cgtgaccaag gagcgcagcc acgtgctggt 3150  
 gggcctggag gatggcaagc tcctcgtggt ggtcgcgggg cagccctctg 3200  
 aggtgcgcag cagccagttc gcgcggaagc tgtggcggtc ctcgcggcgc 3250  
 atctcccagg tgtcctcggg agagacggaa tacaacccta ctgaggcgcg 3300  
 ctgaacctgg ccagtcggc tgctcgggcc ccgccccgg caggcctggc 3350  
 ccgggaggcc ccgcccagaa gtcggcgggg acaccccggg gtgggcagcc 3400  
 cagggggtga gcggggccca ccctgccag ctcagggtt ggcgggcgat 3450

gttaccctcct cagggattgg cgggcggaag tcccggccct cgccggctga 3500  
 ggggccgccc tgaggccag cactggcgtc t 3531

<210> 33  
 <211> 1003  
 <212> PRT  
 <213> Homo sapiens

<400> 33  
 Met Ser Gln Phe Glu Met Asp Thr Tyr Ala Lys Ser His Asp Leu  
 1 5 10 15  
 Met Ser Gly Phe Trp Asn Ala Cys Tyr Asp Met Leu Met Ser Ser  
 20 25 30  
 Gly Gln Arg Arg Gln Trp Glu Arg Ala Gln Ser Arg Arg Ala Phe  
 35 40 45  
 Gln Glu Leu Val Leu Glu Pro Ala Gln Arg Arg Ala Arg Leu Glu  
 50 55 60  
 Gly Leu Arg Tyr Thr Ala Val Leu Lys Gln Gln Ala Thr Gln His  
 65 70 75  
 Ser Met Ala Leu Leu His Trp Gly Ala Leu Trp Arg Gln Leu Ala  
 80 85 90  
 Ser Pro Cys Gly Ala Trp Ala Leu Arg Asp Thr Pro Ile Pro Arg  
 95 100 105  
 Trp Lys Leu Ser Ser Ala Glu Thr Tyr Ser Arg Met Arg Leu Lys  
 110 115 120  
 Leu Val Pro Asn His His Phe Asp Pro His Leu Glu Ala Ser Ala  
 125 130 135  
 Leu Arg Asp Asn Leu Gly Glu Val Pro Leu Thr Pro Thr Glu Glu  
 140 145 150  
 Ala Ser Leu Pro Leu Ala Val Thr Lys Glu Ala Lys Val Ser Thr  
 155 160 165  
 Pro Pro Glu Leu Leu Gln Glu Asp Gln Leu Gly Glu Asp Glu Leu  
 170 175 180  
 Ala Glu Leu Glu Thr Pro Met Glu Ala Ala Glu Leu Asp Glu Gln  
 185 190 195  
 Arg Glu Lys Leu Val Leu Ser Ala Glu Cys Gln Leu Val Thr Val  
 200 205 210  
 Val Ala Val Val Pro Gly Leu Leu Glu Val Thr Thr Gln Asn Val  
 215 220 225  
 Tyr Phe Tyr Asp Gly Ser Thr Glu Arg Val Glu Thr Glu Glu Gly  
 230 235 240  
 Ile Gly Tyr Asp Phe Arg Arg Pro Leu Ala Gln Leu Arg Glu Val  
 245 250 255  
 His Leu Arg Arg Phe Asn Leu Arg Arg Ser Ala Leu Glu Leu Phe  
 260 265 270

Phe	Ile	Asp	Gln	Ala	Asn	Tyr	Phe	Leu	Asn	Phe	Pro	Cys	Lys	Val	275	280	285
Gly	Thr	Thr	Pro	Val	Ser	Ser	Pro	Ser	Gln	Thr	Pro	Arg	Pro	Gln	290	295	300
Pro	Gly	Pro	Ile	Pro	Pro	His	Thr	Gln	Val	Arg	Asn	Gln	Val	Tyr	305	310	315
Ser	Trp	Leu	Leu	Arg	Leu	Arg	Pro	Pro	Ser	Gln	Gly	Tyr	Leu	Ser	320	325	330
Ser	Arg	Ser	Pro	Gln	Glu	Met	Leu	Arg	Ala	Ser	Gly	Leu	Thr	Gln	335	340	345
Lys	Trp	Val	Gln	Arg	Glu	Ile	Ser	Asn	Phe	Glu	Tyr	Leu	Met	Gln	350	355	360
Leu	Asn	Thr	Ile	Ala	Gly	Arg	Thr	Tyr	Asn	Asp	Leu	Ser	Gln	Tyr	365	370	375
Pro	Val	Phe	Pro	Trp	Val	Leu	Gln	Asp	Tyr	Val	Ser	Pro	Thr	Leu	380	385	390
Asp	Leu	Ser	Asn	Pro	Ala	Val	Phe	Arg	Asp	Leu	Ser	Lys	Pro	Ile	395	400	405
Gly	Val	Val	Asn	Pro	Lys	His	Ala	Gln	Leu	Val	Arg	Glu	Lys	Tyr	410	415	420
Glu	Ser	Phe	Glu	Asp	Pro	Ala	Gly	Thr	Ile	Asp	Lys	Phe	His	Tyr	425	430	435
Gly	Thr	His	Tyr	Ser	Asn	Ala	Ala	Gly	Val	Met	His	Tyr	Leu	Ile	440	445	450
Arg	Val	Glu	Pro	Phe	Thr	Ser	Leu	His	Val	Gln	Leu	Gln	Ser	Gly	455	460	465
Arg	Phe	Asp	Cys	Ser	Asp	Arg	Gln	Phe	His	Ser	Val	Ala	Ala	Ala	470	475	480
Trp	Gln	Ala	Arg	Leu	Glu	Ser	Pro	Ala	Asp	Val	Lys	Glu	Leu	Ile	485	490	495
Pro	Glu	Phe	Phe	Tyr	Phe	Pro	Asp	Phe	Leu	Glu	Asn	Gln	Asn	Gly	500	505	510
Phe	Asp	Leu	Gly	Cys	Leu	Gln	Leu	Thr	Asn	Glu	Lys	Val	Gly	Asp	515	520	525
Val	Val	Leu	Pro	Pro	Trp	Ala	Ser	Ser	Pro	Glu	Asp	Phe	Ile	Gln	530	535	540
Gln	His	Arg	Gln	Ala	Leu	Glu	Ser	Glu	Tyr	Val	Ser	Ala	His	Leu	545	550	555
His	Glu	Trp	Ile	Asp	Leu	Ile	Phe	Gly	Tyr	Lys	Gln	Arg	Gly	Pro	560	565	570
Ala	Ala	Glu	Glu	Ala	Leu	Asn	Val	Phe	Tyr	Tyr	Cys	Thr	Tyr	Glu	575	580	585

Gly	Ala	Val	Asp	Leu	Asp	His	Val	Thr	Asp	Glu	Arg	Glu	Arg	Lys	590	595	600
Ala	Leu	Glu	Gly	Ile	Ile	Ser	Asn	Phe	Gly	Gln	Thr	Pro	Cys	Gln	605	610	615
Leu	Leu	Lys	Glu	Pro	His	Pro	Thr	Arg	Leu	Ser	Ala	Glu	Glu	Ala	620	625	630
Ala	His	Arg	Leu	Ala	Arg	Leu	Asp	Thr	Asn	Ser	Pro	Ser	Ile	Phe	635	640	645
Gln	His	Leu	Asp	Glu	Leu	Lys	Ala	Phe	Phe	Ala	Glu	Val	Thr	Val	650	655	660
Ser	Ala	Ser	Gly	Leu	Leu	Gly	Thr	His	Ser	Trp	Leu	Pro	Tyr	Asp	665	670	675
Arg	Asn	Ile	Ser	Asn	Tyr	Phe	Ser	Phe	Ser	Lys	Asp	Pro	Thr	Met	680	685	690
Gly	Ser	His	Lys	Thr	Gln	Arg	Leu	Leu	Ser	Gly	Pro	Trp	Val	Pro	695	700	705
Gly	Ser	Gly	Val	Ser	Gly	Gln	Ala	Leu	Ala	Val	Ala	Pro	Asp	Gly	710	715	720
Lys	Leu	Leu	Phe	Ser	Gly	Gly	His	Trp	Asp	Gly	Ser	Leu	Arg	Val	725	730	735
Thr	Ala	Leu	Pro	Arg	Gly	Lys	Leu	Leu	Ser	Gln	Leu	Ser	Cys	His	740	745	750
Leu	Asp	Val	Val	Thr	Cys	Leu	Ala	Leu	Asp	Thr	Cys	Gly	Ile	Tyr	755	760	765
Leu	Ile	Ser	Gly	Ser	Arg	Asp	Thr	Thr	Cys	Met	Val	Trp	Arg	Leu	770	775	780
Leu	His	Gln	Gly	Gly	Leu	Ser	Val	Gly	Leu	Ala	Pro	Lys	Pro	Val	785	790	795
Gln	Val	Leu	Tyr	Gly	His	Gly	Ala	Ala	Val	Ser	Cys	Val	Ala	Ile	800	805	810
Ser	Thr	Glu	Leu	Asp	Met	Ala	Val	Ser	Gly	Ser	Glu	Asp	Gly	Thr	815	820	825
Val	Ile	Ile	His	Thr	Val	Arg	Arg	Gly	Gln	Phe	Val	Ala	Ala	Leu	830	835	840
Arg	Pro	Leu	Gly	Ala	Thr	Phe	Pro	Gly	Pro	Ile	Phe	His	Leu	Ala	845	850	855
Leu	Gly	Ser	Glu	Gly	Gln	Ile	Val	Val	Gln	Ser	Ser	Ala	Trp	Glu	860	865	870
Arg	Pro	Gly	Ala	Gln	Val	Thr	Tyr	Ser	Leu	His	Leu	Tyr	Ser	Val	875	880	885
Asn	Gly	Lys	Leu	Arg	Ala	Ser	Leu	Pro	Leu	Ala	Glu	Gln	Pro	Thr	890	895	900

Ala	Leu	Thr	Val	Thr	Glu	Asp	Phe	Val	Leu	Leu	Gly	Thr	Ala	Gln
				905					910					915
Cys	Ala	Leu	His	Ile	Leu	Gln	Leu	Asn	Thr	Leu	Leu	Pro	Ala	Ala
				920					925					930
Pro	Pro	Leu	Pro	Met	Lys	Val	Ala	Ile	Arg	Ser	Val	Ala	Val	Thr
				935					940					945
Lys	Glu	Arg	Ser	His	Val	Leu	Val	Gly	Leu	Glu	Asp	Gly	Lys	Leu
				950					955					960
Ile	Val	Val	Val	Ala	Gly	Gln	Pro	Ser	Glu	Val	Arg	Ser	Ser	Gln
				965					970					975
Phe	Ala	Arg	Lys	Leu	Trp	Arg	Ser	Ser	Arg	Arg	Ile	Ser	Gln	Val
				980					985					990
Ser	Ser	Gly	Glu	Thr	Glu	Tyr	Asn	Pro	Thr	Glu	Ala	Arg		
				995					1000					

<210> 34  
 <211> 43  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 34  
 tgactgcact accccgtggc aagctgttga gccagctcag ctg 43

<210> 35  
 <211> 1395  
 <212> DNA  
 <213> Homo sapiens

<400> 35  
 cggacgcgtg ggcggacgcg tgggggctgt gagaaagtgc caataaatac 50  
 atcatgcaac cccacggccc accttgtgaa ctctcgtgc ccagggctga 100  
 tgtgcgtctt ccagggctac tcatccaaag gcctaatacca acgttctgtc 150  
 ttcaatctgc aaatctatgg ggtcctgggg ctcttctgga cccttaactg 200  
 ggtactggcc ctggggccaat gcgtcctcgc tggagccttt gcctccttct 250  
 actgggcctt ccacaagccc caggacatcc ctaccttccc cttaatctct 300  
 gccttcatcc gcacactccg ttaccacact gggtcattgg catttggagc 350  
 cctcatcctg acccttgtgc agatagcccg ggtcatcttg gagtatattg 400  
 accacaagct cagaggagtg cagaaccctg tagccogctg catcatgtgc 450  
 tgtttcaagt gctgcctctg gtgtctggaa aaatttatca agttcctaaa 500  
 ccgcaatgca tacatcatga tcgccatcta cggaagaat ttctgtgtct 550  
 cagccaaaaa tgcgttcatg ctactcatgc gaaacattgt cagggtggtc 600  
 gtcctggaca aagtcacaga cctgctgctg ttctttggga agctgctggt 650

ggtcggaggc gtgggggtcc tgctccttctt ttttttctcc ggtcgcaccc 700  
 cggggctggg taaagacttt aagagccccc acctcaacta ttactggctg 750  
 cccatcatga cctccatcct gggggcctat gtcacgcgca gcggcttctt 800  
 cagcgttttc ggcatgtgtg tggacacgct cttcctctgc ttcctggaag 850  
 acctggagcg gaacaacggc tccctggacc ggccctacta catgtccaag 900  
 agccttctaa agattctggg caagaagaac gaggcgcccc cggacaacaa 950  
 gaagaggaag aagtgcacgc tccggccctg atccaggact gcaccccacc 1000  
 cccaccgtcc agccatccaa cctcacttcg ccttacaggt ctccattttg 1050  
 tggtaaaaaa aggttttagg ccaggcgccg tggctcacgc ctgtaatcca 1100  
 acactttgag aggctgaggc gggcggtatca cctgagtcag gagttcgaga 1150  
 ccagcctggc caacatgggtg aaacctccgt ctctattaaa aatacaaaaa 1200  
 ttagccgaga gtggtggcat gcacctgtca tcccagctac tcggggaggct 1250  
 gaggcaggag aatcgcttga acccgggagg cagaggttgc agtgagccga 1300  
 gatcgcgcca ctgcactcca acctgggtga cagactctgt ctccaaaaca 1350  
 aaacaaacaa acaaaaagat tttattaaag atattttgtt aactc 1395

<210> 36

<211> 321

<212> PRT

<213> Homo sapiens

<400> 36

Arg	Thr	Arg	Gly	Arg	Thr	Arg	Gly	Gly	Cys	Glu	Lys	Val	Pro	Ile
1				5					10					15
Asn	Thr	Ser	Cys	Asn	Pro	Thr	Ala	His	Leu	Val	Asn	Ser	Ser	Cys
				20					25					30
Pro	Gly	Leu	Met	Cys	Val	Phe	Gln	Gly	Tyr	Ser	Ser	Lys	Gly	Leu
				35					40					45
Ile	Gln	Arg	Ser	Val	Phe	Asn	Leu	Gln	Ile	Tyr	Gly	Val	Leu	Gly
				50					55					60
Leu	Phe	Trp	Thr	Leu	Asn	Trp	Val	Leu	Ala	Leu	Gly	Gln	Cys	Val
				65					70					75
Leu	Ala	Gly	Ala	Phe	Ala	Ser	Phe	Tyr	Trp	Ala	Phe	His	Lys	Pro
				80					85					90
Gln	Asp	Ile	Pro	Thr	Phe	Pro	Leu	Ile	Ser	Ala	Phe	Ile	Arg	Thr
				95					100					105
Leu	Arg	Tyr	His	Thr	Gly	Ser	Leu	Ala	Phe	Gly	Ala	Leu	Ile	Leu
				110					115					120
Thr	Leu	Val	Gln	Ile	Ala	Arg	Val	Ile	Leu	Glu	Tyr	Ile	Asp	His
				125					130					135

Lys	Leu	Arg	Gly	Val	Gln	Asn	Pro	Val	Ala	Arg	Cys	Ile	Met	Cys	
				140					145					150	
Cys	Phe	Lys	Cys	Cys	Leu	Trp	Cys	Leu	Glu	Lys	Phe	Ile	Lys	Phe	
				155					160					165	
Leu	Asn	Arg	Asn	Ala	Tyr	Ile	Met	Ile	Ala	Ile	Tyr	Gly	Lys	Asn	
				170					175					180	
Phe	Cys	Val	Ser	Ala	Lys	Asn	Ala	Phe	Met	Leu	Leu	Met	Arg	Asn	
				185					190					195	
Ile	Val	Arg	Val	Val	Val	Leu	Asp	Lys	Val	Thr	Asp	Leu	Leu	Leu	
				200					205					210	
Phe	Phe	Gly	Lys	Leu	Leu	Val	Val	Gly	Gly	Val	Gly	Val	Leu	Ser	
				215					220					225	
Phe	Phe	Phe	Phe	Ser	Gly	Arg	Ile	Pro	Gly	Leu	Gly	Lys	Asp	Phe	
				230					235					240	
Lys	Ser	Pro	His	Leu	Asn	Tyr	Tyr	Trp	Leu	Pro	Ile	Met	Thr	Ser	
				245					250					255	
Ile	Leu	Gly	Ala	Tyr	Val	Ile	Ala	Ser	Gly	Phe	Phe	Ser	Val	Phe	
				260					265					270	
Gly	Met	Cys	Val	Asp	Thr	Leu	Phe	Leu	Cys	Phe	Leu	Glu	Asp	Leu	
				275					280					285	
Glu	Arg	Asn	Asn	Gly	Ser	Leu	Asp	Arg	Pro	Tyr	Tyr	Met	Ser	Lys	
				290					295					300	
Ser	Leu	Leu	Lys	Ile	Leu	Gly	Lys	Lys	Asn	Glu	Ala	Pro	Pro	Asp	
				305					310					315	
Asn	Lys	Lys	Arg	Lys	Lys										
				320											

<210> 37  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 37  
 tcgtgcccag gggctgatgt gc 22

<210> 38  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 38  
 gtctttaccc agccccggga tgcg 24

<210> 39  
 <211> 50

<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 39  
ggcctaattcc aacgtttctgt cttcaatctg caaatctatg gggtcctggg 50

<210> 40  
<211> 1365  
<212> DNA  
<213> Homo sapiens

<400> 40  
gagtcttgac cgccgcggg ctcttggtac ctcagcgca ggcagggcg 50  
tccggccgcc gtggctatgt tcgtgtccga tttccgcaa gagttctacg 100  
agggtggtcca gagccagagg gtccttctct tcgtggcctc ggacgtggat 150  
gctctgtgtg cgtgcaagat ccttcaggcc ttgttcaggt gtgaccacgt 200  
gcaatatacg ctggttccag tttctgggtg gcaagaactt gaaactgcat 250  
ttcttgagca taaagaacag ttctattatt ttattctcat aaactgtgga 300  
gctaattgtag acctattgga tattcttcaa cctgatgaag acactatatt 350  
ctttgtgtgt gactccata ggccagtcaa tgctgtcaat gtatacaacg 400  
ataccagat caaattactc attaaacaag atgatgacct tgaagttccc 450  
gcctatgaag acatcttcag ggatgaagag gaggatgaag agcattcagg 500  
aaatgacagt gatgggtcag agccttctga gaagcgaca cggttagaag 550  
aggagatagt ggagcaaacc atgcggagga ggcagcggcg agagtgggag 600  
gcccgagaaa gagacatcct ctttgactac gagcagtatg aatatcatgg 650  
gacatcgtca gccatggtga tgtttgagct ggcttgatg ctgtccaagg 700  
acctgaatga catgctgtgg tgggcatcg ttggactaac agaccagtgg 750  
gtgcaagaca agatcactca aatgaaatac gtgactgatg ttggtgtcct 800  
gcagcgccac gtttcccgcc acaaccaccg gaacgaggat gaggagaaca 850  
cactctccgt ggactgcaca cggatctcct ttgagtatga cctccgctg 900  
gtgctctacc agcactggtc cctccatgac agcctgtgca acaccagcta 950  
taccgcagcc aggttcaagc tgtggtctgt gcatggacag aagcggctcc 1000  
aggagttcct tgcagacatg ggtcttcccc tgaagcaggt gaagcagaag 1050  
ttccaggcca tggacatctc cttgaaggag aatttgcggt aaatgattga 1100  
agagtctgca aataaatttg ggatgaagga catgcgcgtg cagactttca 1150  
gcattcattt tgggttcaag cacaagtttc tggccagcga cgtggtcttt 1200



gccaccatgt ctttgatgga gagccccgag aaggatggct cagggacaga 1250  
 tcacttcatc caggctctgg acagcctctc caggagtaac ctggacaagc 1300  
 tgtaccatgg cctggaactc gccaagaagc agctgcgagc caccagcag 1350  
 accattgcca gctgc 1365

<210> 41  
 <211> 566  
 <212> PRT  
 <213> Homo sapiens

<400> 41  
 Met Phe Val Ser Asp Phe Arg Lys Glu Phe Tyr Glu Val Val Gln  
     1                    5                    10                    15  
 Ser Gln Arg Val Leu Leu Phe Val Ala Ser Asp Val Asp Ala Leu  
                     20                    25                    30  
 Cys Ala Cys Lys Ile Leu Gln Ala Leu Phe Gln Cys Asp His Val  
                     35                    40                    45  
 Gln Tyr Thr Leu Val Pro Val Ser Gly Trp Gln Glu Leu Glu Thr  
                     50                    55                    60  
 Ala Phe Leu Glu His Lys Glu Gln Phe His Tyr Phe Ile Leu Ile  
                     65                    70                    75  
 Asn Cys Gly Ala Asn Val Asp Leu Leu Asp Ile Leu Gln Pro Asp  
                     80                    85                    90  
 Glu Asp Thr Ile Phe Phe Val Cys Asp Ser His Arg Pro Val Asn  
                     95                    100                    105  
 Val Val Asn Val Tyr Asn Asp Thr Gln Ile Lys Leu Leu Ile Lys  
                     110                    115                    120  
 Gln Asp Asp Asp Leu Glu Val Pro Ala Tyr Glu Asp Ile Phe Arg  
                     125                    130                    135  
 Asp Glu Glu Glu Asp Glu Glu His Ser Gly Asn Asp Ser Asp Gly  
                     140                    145                    150  
 Ser Glu Pro Ser Glu Lys Arg Thr Arg Leu Glu Glu Glu Ile Val  
                     155                    160                    165  
 Glu Gln Thr Met Arg Arg Arg Gln Arg Arg Glu Trp Glu Ala Arg  
                     170                    175                    180  
 Arg Arg Asp Ile Leu Phe Asp Tyr Glu Gln Tyr Glu Tyr His Gly  
                     185                    190                    195  
 Thr Ser Ser Ala Met Val Met Phe Glu Leu Ala Trp Met Leu Ser  
                     200                    205                    210  
 Lys Asp Leu Asn Asp Met Leu Trp Trp Ala Ile Val Gly Leu Thr  
                     215                    220                    225  
 Asp Gln Trp Val Gln Asp Lys Ile Thr Gln Met Lys Tyr Val Thr  
                     230                    235                    240  
 Asp Val Gly Val Leu Gln Arg His Val Ser Arg His Asn His Arg



<210> 42  
 <211> 380  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 44, 118, 172, 183  
 <223> unknown base

<400> 42  
 gtacctcagc gcgagcgcca ggcgtccggc cgccgtggct atgntcgtgt 50  
 ccgatttccg caaagagttc tacgaggtagg tccagagcca gagggtcctt 100  
 ctcttcgtgg cctcggangt ggatgctctg tgtgcgtgca agatccttca 150  
 ggccttggtc cagtgtgacc angtgcaata tangctgggt ccagtttctg 200  
 ggtggcaaga acttgaaaact gcattttctg agcataaaga acagtttcat 250  
 tattttattc tcataaactg tggagctaata gtagacctat tggatattct 300  
 tcaacctgat gaagacacta tattctttgt gtgtgacacc cataggccag 350  
 tcaatgttgt caatgtatac aacgataccc 380

<210> 43  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 43  
 ttccgcaaag agttctacga ggtgg 25

<210> 44  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 44  
 attgacaaca ttgactggcc tatggg 26

<210> 45  
 <211> 50  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 45  
 gtggatgctc tgtgtgcgtg caagatcctt caggccttgt tccagtgtga 50

<210> 46

<211> 3089  
<212> DNA  
<213> Homo sapiens

<400> 46  
caggaaccct ctctttgggt ctggattggg acccctttcc agtaccattt 50  
tttctagtga accacgaagg gacgatacca gaaaacaccc tcaacccaaa 100  
ggaaatagac tacagcccca attggctgac tttggctata gaaaaaagaa 150  
aggaacgaaa agagacagtt ttttttggaa agctaagtct tccctttatc 200  
gagtcaagaa accccccctt cttagactat ttacagcttt taacaattga 250  
gtaaagtacg ctccggtcac catggtgaca gccgccctgg gtcccgtctg 300  
ggcagcgctc ctgctctttc tctgatgtg tgagatccgt atggtggagc 350  
tcacctttga cagagctgtg gccagcggct gccaacggtg ctgtgactct 400  
gaggaccccc tggatcctgc ccatgtatcc tcagcctctt cctccggccg 450  
ccccacgcc ctgcctgaga tcagacccta cattaatatc accatcctga 500  
agggtgacaa aggggaccca ggcccaatgg gcctgccagg gtacatgggc 550  
agggagggtc cccaagggga gcctggccct cagggcagca agggtgacaa 600  
gggggagatg ggcagccccg gcgcccctg ccagaagcgc ttcttcgcct 650  
tctcagtggg ccgcaagacg gccctgcaca gcggcgagga cttccagacg 700  
ctgctcttcg aaagggctct tgtgaacctt gatgggtgct ttgacatggc 750  
gaccggccag tttgctgctc cctgcgtgg catctacttc ttcagcctca 800  
atgtgcacag ctggaattac aaggagacgt acgtgcacat tatgcataac 850  
cagaaagagg ctgtcatcct gtacgcgcag ccagcgcagc gcagcatcat 900  
gcagagccag agtgtgatgc tggacctggc ctacggggac cgcgtctggg 950  
tgcggtcttt caagcgccag cgcgagaacg ccatctacag caacgacttc 1000  
gacacctaca tcaccttcag cggccacctc atcaaggccg aggacgactg 1050  
agggcctctg ggccaccctc ccggctggag agctcaggtg ctggtccogt 1100  
cccctgcagg gctcagtttg cactgctgtg aagcaggaag gccagggagg 1150  
tccccgggga cctggcattc tggggagacc ctgcttctat cttggctgcc 1200  
atcatccctc ccagcctatt tctgctcctc tcttctctct tggacctatt 1250  
ttaagaagct tgctaacct aatattctag aactttccca gcctcgtagc 1300  
ccagcacttc tcaaacttgg aatgcatgc gaatcaccgc gggttcgtgt 1350  
taaattgcaga ttctgactca gcaggtctga gtgggtccag gattctgtgt 1400  
ttctcatatg ttctgggtg atgctgatgg ggtcagtcta tgaaccacac 1450

tggagcaacc aggttctagg actttctcaa tattctagta ctttctgaac 1500  
 attctggaat cctccccaca ttctagaatt ctcccaacat ttttttttct 1550  
 tgagacagag tcttgctctg ttgccaggc tagagtgcag tggtgcaatc 1600  
 tcagttcact gcaacctctg cctcccgggt tcaagcgatt cttctgcctc 1650  
 agcctcccta gtggctggga ttacaggcgc ctgctaccat gcctggctaa 1700  
 tttttgtatt tttagtagag atgggggttc accatattgg ccaggctgggt 1750  
 cttgaactcc tgacttcagg tgaccacccc gcctcggcct ctcaaaatgc 1800  
 tgggattaca ggtgtgagcc accgtgcctg gccaatcca acattcttaa 1850  
 attctctcat ccctccaggg ctccccgtgc tatgttctct ttacccttc 1900  
 cccctcttct cttgctcagg cctgcaccac tgcagccacc gttcatttat 1950  
 tcattcatta aacactgagc actcactctg tgctgggtcc cggaagggt 2000  
 gaggggtca gacacaggcc ctgcccctgc cctcagtgc tggccagtcc 2050  
 agcccaggcg gggagagatg tgtacatagg ttttaaagca gaccagagc 2100  
 tcatgggggc ctgtgttctg ggtgttcagg tgctgctggt cctccattac 2150  
 ccaactgctcc ccaaggctgg tgggacgggg tcccgggtggc aggggcaggt 2200  
 atctccttcc cgttcctcat ccacctgccc agtgctcatc gttacagcaa 2250  
 accccagggg gccttgcca ggtcaagggt tctgtgagga gaggaccag 2300  
 gagtgtgggg gcatttgggg ggtgaagtgg ccccggaaga atggaacca 2350  
 caccatagc totccccaca gctgatacgg catcctgcga gaagacctgc 2400  
 cctcctcact gggatcccct tctgacctcc tcccagggt ctgccagggc 2450  
 cttgctcagt cccttcacc aaagtcatct gaacttcctt tccccaggg 2500  
 cctccagctg ccctcagaca ctgatgtctg tcccagggt ctctctgcc 2550  
 ctcatgcccc tctcaccggc ccagtcccc gactctccag gctttatcaa 2600  
 ggtgctaagg cccgggtggg cagctcctcg tctcagagcc ctctccggc 2650  
 ctggtgctgc ctttacaac acctgcagga gaaggccac ggaagccca 2700  
 ggcttttagag ccctcagcag gtctggggag ctagagcaaa ggaggacct 2750  
 caggccttcc gtttcttctt ccagggtggg gtggcctggt gttcccctag 2800  
 ccttccaaac ccagggtggc tgcccttctc ccagaggga ggcggcctcc 2850  
 gccattgggt gctcatgcag actctggggc tgagggtgcc cggggggtga 2900  
 tctctggtgc tcacagccga gggagccgtg gctccatggc cagatgacgg 2950  
 aaacagggtc tgaccaagtg ccaggaagac ctgtgctata aaccacctg 3000  
 cctgatcctg cccctgcctg accccgccac gccctgccgt ccagcatgat 3050

taaagaatgc tgtctcctct tggaaaaaaaa aaaaaaaaa 3089

<210> 47

<211> 259

<212> PRT

<213> Homo sapiens

<220>

<221> Signal Peptide

<222> 1-20

<223> Signal Peptide

<220>

<221> N-glycosylation Site

<222> 72-75

<223> N-glycosylation Site

<220>

<221> Clq Domain Proteins

<222> 144-178, 78-111, 84-117

<223> Clq Domain Proteins

<400> 47

Met	Val	Thr	Ala	Ala	Leu	Gly	Pro	Val	Trp	Ala	Ala	Leu	Leu	Leu	
1				5					10					15	
Phe	Leu	Leu	Met	Cys	Glu	Ile	Arg	Met	Val	Glu	Leu	Thr	Phe	Asp	
				20					25					30	
Arg	Ala	Val	Ala	Ser	Gly	Cys	Gln	Arg	Cys	Cys	Asp	Ser	Glu	Asp	
				35					40					45	
Pro	Leu	Asp	Pro	Ala	His	Val	Ser	Ser	Ala	Ser	Ser	Ser	Gly	Arg	
				50					55					60	
Pro	His	Ala	Leu	Pro	Glu	Ile	Arg	Pro	Tyr	Ile	Asn	Ile	Thr	Ile	
				65					70					75	
Leu	Lys	Gly	Asp	Lys	Gly	Asp	Pro	Gly	Pro	Met	Gly	Leu	Pro	Gly	
				80					85					90	
Tyr	Met	Gly	Arg	Glu	Gly	Pro	Gln	Gly	Glu	Pro	Gly	Pro	Gln	Gly	
				95					100					105	
Ser	Lys	Gly	Asp	Lys	Gly	Glu	Met	Gly	Ser	Pro	Gly	Ala	Pro	Cys	
				110					115					120	
Gln	Lys	Arg	Phe	Phe	Ala	Phe	Ser	Val	Gly	Arg	Lys	Thr	Ala	Leu	
				125					130					135	
His	Ser	Gly	Glu	Asp	Phe	Gln	Thr	Leu	Leu	Phe	Glu	Arg	Val	Phe	
				140					145					150	
Val	Asn	Leu	Asp	Gly	Cys	Phe	Asp	Met	Ala	Thr	Gly	Gln	Phe	Ala	
				155					160					165	
Ala	Pro	Leu	Arg	Gly	Ile	Tyr	Phe	Phe	Ser	Leu	Asn	Val	His	Ser	
				170					175					180	
Trp	Asn	Tyr	Lys	Glu	Thr	Tyr	Val	His	Ile	Met	His	Asn	Gln	Lys	
				185					190					195	
Glu	Ala	Val	Ile	Leu	Tyr	Ala	Gln	Pro	Ser	Glu	Arg	Ser	Ile	Met	

	200	205	210
Gln Ser Gln Ser	Val Met Leu Asp Leu	Ala Tyr Gly Asp Arg	Val
	215	220	225
Trp Val Arg Leu	Phe Lys Arg Gln Arg	Glu Asn Ala Ile Tyr	Ser
	230	235	240
Asn Asp Phe Asp	Thr Tyr Ile Thr Phe	Ser Gly His Leu Ile	Lys
	245	250	255
Ala Glu Asp Asp			

<210> 48  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 48  
 ccagacgctg ctcttcgaaa gggtc 25

<210> 49  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 49  
 ggtccccgta ggccaggtcc agc 23

<210> 50  
 <211> 50  
 <212> DNA  
 <213> Artificial sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 50  
 ctacttcttc agcctcaatg tgcacagctg gaattacaag gagacgtacg 50

<210> 51  
 <211> 2768  
 <212> DNA  
 <213> Homo sapiens

<400> 51  
 actcgaacgc agttgcttcg ggaccagga cccctcggg cccgaccgc 50  
 caggaaagac tgaggccgcg gcctgccccg cccggctccc tgcgcgcgcg 100  
 cgcctccccg ggacagaaga tgtgctccag ggtccctctg ctgctgccgc 150  
 tgctcctgct actggccctg gggcctgggg tgcagggctg cccatccggc 200  
 tgccagtgcg gccagccaca gacagtcttc tgactgccc gccaggggac 250

cacggtgccc cgagacgtgc caccogacac ggtggggctg tacgtctttg 300  
agaacggcat caccatgctc gacgcaggca gctttgccgg cctgccgggc 350  
ctgcagctcc tggacctgtc acagaaccag atcgccagcc tgcccagcgg 400  
ggtcttccag ccactcgcca acctcagcaa cctggacctg acggccaaca 450  
ggctgcatga aatcaccaat gagaccttcc gtggcctgcg gcgcctcgag 500  
cgctctacc tgggcaagaa ccgcatacgc cacatccagc ctggtgcctt 550  
cgacacgtc gaccgcctcc tggagctcaa gctgcaggac aacgagctgc 600  
gggcactgcc cccgctgcgc ctgccccgcc tgctgctgct ggacctcagc 650  
cacaacagcc tcctggccct ggagcccggc atcctggaca ctgccaacgt 700  
ggaggcgctg cggctggctg gtctggggct gcagcagctg gacgaggggc 750  
tcttcagccg cttgcgcaac ctccacgacc tggatgtgtc cgacaaccag 800  
ctggagcgag tgccacctgt gatccagagc ctccggggcc tgacgcgcct 850  
gcggtggtcc ggcaacaccc gcattgccc gctgcggccc gaggacctgg 900  
ccggcctggc tgccctgcag gagctggatg tgagcaacct aagcctgcag 950  
gccctgcctg ggcacctctc gggcctcttc cccgcctgc ggctgctggc 1000  
agctgcccgc aaccccttca actgcgtgtg cccctgagc tggtttggcc 1050  
cctgggtgcg cgagagccac gtcacactgg ccagccctga ggagacgcgc 1100  
tgccacttcc cgccaagaa cgctggccgg ctgctcctgg agcttgacta 1150  
cgccgacttt ggctgcccag ccaccaccac cacagccaca gtgcccacca 1200  
cgaggcccggt ggtgcgggag cccacagcct tgtcttctag cttggctcct 1250  
acctggctta gcccacagc gcgggccact gaggcccca gccgcctc 1300  
cactgcccga ccgactgtag ggcctgtccc ccagccccag gactgcccac 1350  
cgtccacctg cctcaatggg ggcacatgcc acctggggac acggcaccac 1400  
ctggcgtgct tgtgccccga aggtttcacg ggcctgtact gtgagagcca 1450  
gatggggcag gggacacggc ccagccctac accagtcacg ccgaggccac 1500  
cacggtccct gacctgggc atcgagccgg tgagcccccac ctccctgcgc 1550  
gtggggctgc agcgtacct ccaggggagc tccgtgcagc tcaggagcct 1600  
ccgtctcacc tatcgcaacc tatcgggccc tgataagcgg ctggtgacgc 1650  
tgcgactgcc tgctcgctc gctgagtaca cggtcaccca gctgcggccc 1700  
aacgccactt actccgtctg tgtcatgctt ttggggcccg ggcgggtgcc 1750  
ggagggcgag gaggcctgcg gggaggccca tacaccccca gccgtccact 1800  
ccaaccacgc cccagtcacc caggcccgcg agggcaacct gccgtcctc 1850



attgcgcccc ccctggccgc ggtgctcctg gccgcgctgg ctgcggtggg 1900  
 ggcagcctac tgtgtgcggc gggggcgggc catggcagca gcggctcagg 1950  
 acaaagggca ggtggggcca ggggtcgggc ccctggaact ggagggagtg 2000  
 aaggtcccct tggagccagg cccgaaggca acagagggcg gtggagagggc 2050  
 cctgcccagc gggctctgagt gtgaggtgcc actcatgggc ttcccagggc 2100  
 ctggcctcca gtcacccctc cacgcaaagc cctacatcta agccagagag 2150  
 agacagggca gctggggccg ggctctcagc cagtgagatg gccagcccc 2200  
 tcctgctgcc acaccacgta agttctcagt cccaacctcg gggatgtgtg 2250  
 cagacagggc tgtgtgacca cagctgggcc ctgttccctc tggacctcgg 2300  
 tctcctcatc tgtgagatgc tgtggcccag ctgacgagcc ctaacgtccc 2350  
 cagaaccgag tgcctatgag gacagtgtcc gccctgccct ccgcaacgtg 2400  
 cagtccctgg gcacggcggg ccctgccatg tgctggtaac gcatgcctgg 2450  
 gtcttgctgg gctctccac tccaggcggg ccctgggggc cagtgaagga 2500  
 agtcccgga aagagcagag ggagagcggg taggcggctg tgtgactcta 2550  
 gtcttgcccc caggaagcga aggaacaaaa gaaactggaa aggaagatgc 2600  
 ttttaggaaca tgttttgctt ttttaaaata tatatattta taagagatcc 2650  
 tttccattt attctgggaa gatgtttttc aaactcagag acaaggactt 2700  
 tggtttttgt aagacaaacg atgatatgaa ggcttttgt aagaaaaaat 2750  
 aaaagatgaa gtgtgaaa 2768

<210> 52  
 <211> 673  
 <212> PRT  
 <213> Homo sapiens

<400> 52  
 Met Cys Ser Arg Val Pro Leu Leu Leu Pro Leu Leu Leu Leu Leu  
 1 5 10 15  
 Ala Leu Gly Pro Gly Val Gln Gly Cys Pro Ser Gly Cys Gln Cys  
 20 25 30  
 Ser Gln Pro Gln Thr Val Phe Cys Thr Ala Arg Gln Gly Thr Thr  
 35 40 45  
 Val Pro Arg Asp Val Pro Pro Asp Thr Val Gly Leu Tyr Val Phe  
 50 55 60  
 Glu Asn Gly Ile Thr Met Leu Asp Ala Gly Ser Phe Ala Gly Leu  
 65 70 75  
 Pro Gly Leu Gln Leu Leu Asp Leu Ser Gln Asn Gln Ile Ala Ser  
 80 85 90  
 Leu Pro Ser Gly Val Phe Gln Pro Leu Ala Asn Leu Ser Asn Leu

	95	100	105
Asp Leu Thr Ala	Asn Arg Leu His Glu	Ile Thr Asn Glu Thr	Phe
	110	115	120
Arg Gly Leu Arg	Arg Leu Glu Arg Leu	Tyr Leu Gly Lys Asn	Arg
	125	130	135
Ile Arg His Ile	Gln Pro Gly Ala Phe	Asp Thr Leu Asp Arg	Leu
	140	145	150
Leu Glu Leu Lys	Leu Gln Asp Asn Glu	Leu Arg Ala Leu Pro	Pro
	155	160	165
Leu Arg Leu Pro	Arg Leu Leu Leu Leu	Asp Leu Ser His Asn	Ser
	170	175	180
Leu Leu Ala Leu	Glu Pro Gly Ile Leu	Asp Thr Ala Asn Val	Glu
	185	190	195
Ala Leu Arg Leu	Ala Gly Leu Gly Leu	Gln Gln Leu Asp Glu	Gly
	200	205	210
Leu Phe Ser Arg	Leu Arg Asn Leu His	Asp Leu Asp Val Ser	Asp
	215	220	225
Asn Gln Leu Glu	Arg Val Pro Pro Val	Ile Arg Gly Leu Arg	Gly
	230	235	240
Leu Thr Arg Leu	Arg Leu Ala Gly Asn	Thr Arg Ile Ala Gln	Leu
	245	250	255
Arg Pro Glu Asp	Leu Ala Gly Leu Ala	Ala Leu Gln Glu Leu	Asp
	260	265	270
Val Ser Asn Leu	Ser Leu Gln Ala Leu	Pro Gly Asp Leu Ser	Gly
	275	280	285
Leu Phe Pro Arg	Leu Arg Leu Leu Ala	Ala Ala Arg Asn Pro	Phe
	290	295	300
Asn Cys Val Cys	Pro Leu Ser Trp Phe	Gly Pro Trp Val Arg	Glu
	305	310	315
Ser His Val Thr	Leu Ala Ser Pro Glu	Glu Thr Arg Cys His	Phe
	320	325	330
Pro Pro Lys Asn	Ala Gly Arg Leu Leu	Leu Glu Leu Asp Tyr	Ala
	335	340	345
Asp Phe Gly Cys	Pro Ala Thr Thr Thr	Thr Ala Thr Val Pro	Thr
	350	355	360
Thr Arg Pro Val	Val Arg Glu Pro Thr	Ala Leu Ser Ser Ser	Leu
	365	370	375
Ala Pro Thr Trp	Leu Ser Pro Thr Ala	Pro Ala Thr Glu Ala	Pro
	380	385	390
Ser Pro Pro Ser	Thr Ala Pro Pro Thr	Val Gly Pro Val Pro	Gln
	395	400	405
Pro Gln Asp Cys	Pro Pro Ser Thr Cys	Leu Asn Gly Gly Thr	Cys

	410	415	420
His Leu Gly Thr	Arg His His Leu Ala	Cys Leu Cys Pro Glu	Gly
	425	430	435
Phe Thr Gly Leu	Tyr Cys Glu Ser Gln	Met Gly Gln Gly Thr	Arg
	440	445	450
Pro Ser Pro Thr	Pro Val Thr Pro Arg	Pro Pro Arg Ser Leu	Thr
	455	460	465
Leu Gly Ile Glu	Pro Val Ser Pro Thr	Ser Leu Arg Val Gly	Leu
	470	475	480
Gln Arg Tyr Leu	Gln Gly Ser Ser Val	Gln Leu Arg Ser Leu	Arg
	485	490	495
Leu Thr Tyr Arg	Asn Leu Ser Gly Pro	Asp Lys Arg Leu Val	Thr
	500	505	510
Leu Arg Leu Pro	Ala Ser Leu Ala Glu	Tyr Thr Val Thr Gln	Leu
	515	520	525
Arg Pro Asn Ala	Thr Tyr Ser Val Cys	Val Met Pro Leu Gly	Pro
	530	535	540
Gly Arg Val Pro	Glu Gly Glu Glu Ala	Cys Gly Glu Ala His	Thr
	545	550	555
Pro Pro Ala Val	His Ser Asn His Ala	Pro Val Thr Gln Ala	Arg
	560	565	570
Glu Gly Asn Leu	Pro Leu Leu Ile Ala	Pro Ala Leu Ala Ala	Val
	575	580	585
Leu Leu Ala Ala	Leu Ala Ala Val Gly	Ala Ala Tyr Cys Val	Arg
	590	595	600
Arg Gly Arg Ala	Met Ala Ala Ala Ala	Gln Asp Lys Gly Gln	Val
	605	610	615
Gly Pro Gly Ala	Gly Pro Leu Glu Leu	Glu Gly Val Lys Val	Pro
	620	625	630
Leu Glu Pro Gly	Pro Lys Ala Thr Glu	Gly Gly Gly Glu Ala	Leu
	635	640	645
Pro Ser Gly Ser	Glu Cys Glu Val Pro	Leu Met Gly Phe Pro	Gly
	650	655	660
Pro Gly Leu Gln	Ser Pro Leu His Ala	Lys Pro Tyr Ile	
	665	670	

<210> 53

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 53

tcttcagccg cttgcgcaac ctc 23

<210> 54  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 54  
ttgctcacat ccagctcctg cagg 24

<210> 55  
<211> 41  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 55  
tggatgttgt ccagacaacc agctggagct gtatccgagg c 41

<210> 56  
<211> 3462  
<212> DNA  
<213> Homo sapiens

<400> 56  
gaatcatcca cgcacctgca gctctgctga gagagtgcaa gccgtggggg 50  
ttttgagctc atcttcatca ttcatatgag gaaataagtg gtaaaatcct 100  
tggaataaca atgagactca tcagaaacat ttacatat tttagtattg 150  
ttatgacagc agaggggtgat gctccagagc tgccagaaga aagggaactg 200  
atgaccaact gctccaacat gtctctaaga aagggtcccg cagacttgac 250  
cccagccaca acgacactgg atttatccta taacctcctt tttcaactcc 300  
agagttcaga ttttcattct gtctccaaac tgagagt tttt gattctatgc 350  
cataacagaa ttcaacagct ggatctcaaa acctttgaat tcaacaagga 400  
gttaagatat ttagatttgt ctaataacag actgaagagt gtaacttggg 450  
atttactggc aggtctcagg tatttagatc tttcttttaa tgactttgac 500  
accatgccta tctgtgagga agctggcaac atgtcacacc tggaaatcct 550  
aggtttgagt ggggcaaaaa tacaaaaatc agatttccag aaaattgctc 600  
atctgcatct aaatactgtc ttcttaggat tcagaactct tctcattat 650  
gaagaaggta gcctgcccac cttaaacaca acaaaactgc acattgtttt 700  
accaatggac acaaatttct gggttctttt gcgtgatgga atcaagactt 750  
caaaaatatt agaaatgaca aatatagatg gcaaaagcca atttgtaagt 800  
tatgaaatgc aacgaaatct tagtttagaa aatgctaaga catcggttct 850  
attgcttaat aaagttgatt tactctggga cgaccttttc cttatcttac 900

aatttgtttg gcatacatca gtggaacact ttcagatccg aaatgtgact 950  
tttggtggta aggcttatct tgaccacaat tcatttgact actcaaatac 1000  
tgtaatgaga actataaaat tggagcatgt acatttcaga gtgtttttaca 1050  
ttcaacagga taaaatctat ttgcttttga ccaaaatgga catagaaaac 1100  
ctgacaatat caaatgcaca aatgccacac atgcttttcc cgaattatcc 1150  
tacgaaattc caatatTTTaa atTTTgCCaa taatatctta acagacgagt 1200  
tgTTTaaaag aactatccaa ctgcctcact tgaaaactct cattttgaat 1250  
ggcaataaac tggagacact ttcttttagta agttgctttg ctaacaacac 1300  
acccttgga cacttggaTC tgagtcaaaa tctattacaa cataaaaaatg 1350  
atgaaaattg ctcatggcca gaaactgtgg tcaatatgaa tctgtcatac 1400  
aataaattgt ctgattctgt cttcaggtgc ttgccccaaa gtattcaaat 1450  
acttgacctt aataataacc aaatccaaac tgtacctaaa gagactattc 1500  
atctgatggc cttacgagaa ctaaattattg catttaattt tctaactgat 1550  
ctccctggat gcagtcattt cagtagactt tcagttctga acattgaaat 1600  
gaacttcatt ctgagcccat ctctggattt tgttcagagc tgccaggaag 1650  
ttaaactct aaatgcggga agaaatccat tccggtgtac ctgtgaatta 1700  
aaaaatttca ttcagcttga aacatattca gaggtcatga tggttggatg 1750  
gtcagattca tacacctgtg aatacccttt aaacctaagg ggaactaggt 1800  
taaaagacgt tcatctccac gaattatctt gcaacacagc tctgttgatt 1850  
gtcaccattg tggttattat gctagttctg gggttggctg tggccttctg 1900  
ctgtctccac tttgatctgc cctggtatct caggatgcta ggtcaatgca 1950  
cacaacatg gcacagggtt aggaaaacaa cccaagaaca actcaagaga 2000  
aatgtccgat tccacgcatt tatttcatac agtgaacatg attctctgtg 2050  
ggtgaagaat gaattgatcc ccaatctaga gaaggaagat ggttctatct 2100  
tgatttgcct ttatgaaagc tactttgacc ctggcaaaaag cattagtga 2150  
aatattgtaa gcttcattga gaaaagctat aagtccatct ttgttttgtc 2200  
tccaacttt gtccagaatg agtggtgcca ttatgaattc tactttgccc 2250  
accacaatct cttccatgaa aattctgac atataattct tatcttactg 2300  
gaaccattc cattctattg cattccacc aggtatcata aactgaaagc 2350  
tctcctggaa aaaaagcat acttggaatg gcccaaggat aggcgtaaat 2400  
gtgggctttt ctgggcaaac cttcgagctg ctattaatgt taatgtatta 2450  
gccaccagag aaatgtatga actgcagaca ttcacagagt taaatgaaga 2500

gtctcgaggt tctacaatct ctctgatgag aacagattgt ctataaaatc 2550  
 ccacagtcct tgggaagttg gggaccacat aactgttgg gatgtacatt 2600  
 gatacaacct ttatgatggc aatttgacaa tatttattaa aataaaaaat 2650  
 gggtattccc ttcatatcag tttctagaag gatttctaag aatgtatcct 2700  
 atagaaacac cttcacaagt ttataagggc ttatggaaaa aggtgttcat 2750  
 cccaggattg tttataatca tgaaaaatgt ggccagggtgc agtgggtcac 2800  
 tcttgtaatc ccagcactat gggaggccaa ggtgggtgac ccacgaggtc 2850  
 aagagatgga gaccatcctg gccaacatgg tgaaaccctg tctctactaa 2900  
 aaatacaaaa attagctggg cgtgatgggtg cacgcctgta gtcccagcta 2950  
 cttgggaggc tgaggcagga gaatcgcttg aaccogggag gtggcagttg 3000  
 cagtgaactg agatcgagcc actgcactcc agcctggtga cagagcgaga 3050  
 ctccatctca aaaaaaagaa aaaaaaaaaa gaaaaaatg gaaaacatcc 3100  
 tcatggccac aaaataaggt ctaattcaat aaattatagt acattaatgt 3150  
 aatataatat tacatgccac taaaaagaat aaggtagctg tatatttcct 3200  
 ggtatggaaa aaacatatta atatgttata aactattagg ttggtgcaaa 3250  
 actaattgtg gtttttgcca ttgaaatggc attgaaataa aagtgtaaag 3300  
 aaatctatac cagatgtagt aacagtgggt tgggtctggg aggttggtatt 3350  
 acagggagca tttgatttct atgttggtgta tttctataat gtttgaattg 3400  
 tttagaatga atctgtatct cttttataag tagaaaaaaa ataaagatag 3450  
 tttttacagc ct 3462

<210> 57

<211> 811

<212> PRT

<213> Homo sapiens

<400> 57

Met	Arg	Leu	Ile	Arg	Asn	Ile	Tyr	Ile	Phe	Cys	Ser	Ile	Val	Met
1				5					10					15
Thr	Ala	Glu	Gly	Asp	Ala	Pro	Glu	Leu	Pro	Glu	Glu	Arg	Glu	Leu
			20						25					30
Met	Thr	Asn	Cys	Ser	Asn	Met	Ser	Leu	Arg	Lys	Val	Pro	Ala	Asp
			35						40					45
Leu	Thr	Pro	Ala	Thr	Thr	Thr	Leu	Asp	Leu	Ser	Tyr	Asn	Leu	Leu
			50						55					60
Phe	Gln	Leu	Gln	Ser	Ser	Asp	Phe	His	Ser	Val	Ser	Lys	Leu	Arg
			65						70					75
Val	Leu	Ile	Leu	Cys	His	Asn	Arg	Ile	Gln	Gln	Leu	Asp	Leu	Lys
			80						85					90

Thr	Phe	Glu	Phe	Asn	Lys	Glu	Leu	Arg	Tyr	Leu	Asp	Leu	Ser	Asn	
				95					100					105	
Asn	Arg	Leu	Lys	Ser	Val	Thr	Trp	Tyr	Leu	Leu	Ala	Gly	Leu	Arg	
				110					115					120	
Tyr	Leu	Asp	Leu	Ser	Phe	Asn	Asp	Phe	Asp	Thr	Met	Pro	Ile	Cys	
				125					130					135	
Glu	Glu	Ala	Gly	Asn	Met	Ser	His	Leu	Glu	Ile	Leu	Gly	Leu	Ser	
				140					145					150	
Gly	Ala	Lys	Ile	Gln	Lys	Ser	Asp	Phe	Gln	Lys	Ile	Ala	His	Leu	
				155					160					165	
His	Leu	Asn	Thr	Val	Phe	Leu	Gly	Phe	Arg	Thr	Leu	Pro	His	Tyr	
				170					175					180	
Glu	Glu	Gly	Ser	Leu	Pro	Ile	Leu	Asn	Thr	Thr	Lys	Leu	His	Ile	
				185					190					195	
Val	Leu	Pro	Met	Asp	Thr	Asn	Phe	Trp	Val	Leu	Leu	Arg	Asp	Gly	
				200					205					210	
Ile	Lys	Thr	Ser	Lys	Ile	Leu	Glu	Met	Thr	Asn	Ile	Asp	Gly	Lys	
				215					220					225	
Ser	Gln	Phe	Val	Ser	Tyr	Glu	Met	Gln	Arg	Asn	Leu	Ser	Leu	Glu	
				230					235					240	
Asn	Ala	Lys	Thr	Ser	Val	Leu	Leu	Leu	Asn	Lys	Val	Asp	Leu	Leu	
				245					250					255	
Trp	Asp	Asp	Leu	Phe	Leu	Ile	Leu	Gln	Phe	Val	Trp	His	Thr	Ser	
				260					265					270	
Val	Glu	His	Phe	Gln	Ile	Arg	Asn	Val	Thr	Phe	Gly	Gly	Lys	Ala	
				275					280					285	
Tyr	Leu	Asp	His	Asn	Ser	Phe	Asp	Tyr	Ser	Asn	Thr	Val	Met	Arg	
				290					295					300	
Thr	Ile	Lys	Leu	Glu	His	Val	His	Phe	Arg	Val	Phe	Tyr	Ile	Gln	
				305					310					315	
Gln	Asp	Lys	Ile	Tyr	Leu	Leu	Leu	Thr	Lys	Met	Asp	Ile	Glu	Asn	
				320					325					330	
Leu	Thr	Ile	Ser	Asn	Ala	Gln	Met	Pro	His	Met	Leu	Phe	Pro	Asn	
				335					340					345	
Tyr	Pro	Thr	Lys	Phe	Gln	Tyr	Leu	Asn	Phe	Ala	Asn	Asn	Ile	Leu	
				350					355					360	
Thr	Asp	Glu	Leu	Phe	Lys	Arg	Thr	Ile	Gln	Leu	Pro	His	Leu	Lys	
				365					370					375	
Thr	Leu	Ile	Leu	Asn	Gly	Asn	Lys	Leu	Glu	Thr	Leu	Ser	Leu	Val	
				380					385					390	
Ser	Cys	Phe	Ala	Asn	Asn	Thr	Pro	Leu	Glu	His	Leu	Asp	Leu	Ser	
				395					400					405	

Gln	Asn	Leu	Leu	Gln	His	Lys	Asn	Asp	Glu	Asn	Cys	Ser	Trp	Pro	410	415	420
Glu	Thr	Val	Val	Asn	Met	Asn	Leu	Ser	Tyr	Asn	Lys	Leu	Ser	Asp	425	430	435
Ser	Val	Phe	Arg	Cys	Leu	Pro	Lys	Ser	Ile	Gln	Ile	Leu	Asp	Leu	440	445	450
Asn	Asn	Asn	Gln	Ile	Gln	Thr	Val	Pro	Lys	Glu	Thr	Ile	His	Leu	455	460	465
Met	Ala	Leu	Arg	Glu	Leu	Asn	Ile	Ala	Phe	Asn	Phe	Leu	Thr	Asp	470	475	480
Leu	Pro	Gly	Cys	Ser	His	Phe	Ser	Arg	Leu	Ser	Val	Leu	Asn	Ile	485	490	495
Glu	Met	Asn	Phe	Ile	Leu	Ser	Pro	Ser	Leu	Asp	Phe	Val	Gln	Ser	500	505	510
Cys	Gln	Glu	Val	Lys	Thr	Leu	Asn	Ala	Gly	Arg	Asn	Pro	Phe	Arg	515	520	525
Cys	Thr	Cys	Glu	Leu	Lys	Asn	Phe	Ile	Gln	Leu	Glu	Thr	Tyr	Ser	530	535	540
Glu	Val	Met	Met	Val	Gly	Trp	Ser	Asp	Ser	Tyr	Thr	Cys	Glu	Tyr	545	550	555
Pro	Leu	Asn	Leu	Arg	Gly	Thr	Arg	Leu	Lys	Asp	Val	His	Leu	His	560	565	570
Glu	Leu	Ser	Cys	Asn	Thr	Ala	Leu	Leu	Ile	Val	Thr	Ile	Val	Val	575	580	585
Ile	Met	Leu	Val	Leu	Gly	Leu	Ala	Val	Ala	Phe	Cys	Cys	Leu	His	590	595	600
Phe	Asp	Leu	Pro	Trp	Tyr	Leu	Arg	Met	Leu	Gly	Gln	Cys	Thr	Gln	605	610	615
Thr	Trp	His	Arg	Val	Arg	Lys	Thr	Thr	Gln	Glu	Gln	Leu	Lys	Arg	620	625	630
Asn	Val	Arg	Phe	His	Ala	Phe	Ile	Ser	Tyr	Ser	Glu	His	Asp	Ser	635	640	645
Leu	Trp	Val	Lys	Asn	Glu	Leu	Ile	Pro	Asn	Leu	Glu	Lys	Glu	Asp	650	655	660
Gly	Ser	Ile	Leu	Ile	Cys	Leu	Tyr	Glu	Ser	Tyr	Phe	Asp	Pro	Gly	665	670	675
Lys	Ser	Ile	Ser	Glu	Asn	Ile	Val	Ser	Phe	Ile	Glu	Lys	Ser	Tyr	680	685	690
Lys	Ser	Ile	Phe	Val	Leu	Ser	Pro	Asn	Phe	Val	Gln	Asn	Glu	Trp	695	700	705
Cys	His	Tyr	Glu	Phe	Tyr	Phe	Ala	His	His	Asn	Leu	Phe	His	Glu	710	715	720



Asn	Ser	Asp	His	Ile	Ile	Leu	Ile	Leu	Leu	Glu	Pro	Ile	Pro	Phe
				725					730					735
Tyr	Cys	Ile	Pro	Thr	Arg	Tyr	His	Lys	Leu	Lys	Ala	Leu	Leu	Glu
				740					745					750
Lys	Lys	Ala	Tyr	Leu	Glu	Trp	Pro	Lys	Asp	Arg	Arg	Lys	Cys	Gly
				755					760					765
Leu	Phe	Trp	Ala	Asn	Leu	Arg	Ala	Ala	Ile	Asn	Val	Asn	Val	Leu
				770					775					780
Ala	Thr	Arg	Glu	Met	Tyr	Glu	Leu	Gln	Thr	Phe	Thr	Glu	Leu	Asn
				785					790					795
Glu	Glu	Ser	Arg	Gly	Ser	Thr	Ile	Ser	Leu	Met	Arg	Thr	Asp	Cys
				800					805					810

Leu

<210> 58  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 58  
 tcccaccagg tatcataaac tgaa 24

<210> 59  
 <211> 27  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 59  
 ttatagacaa tctgttctca tcagaga 27

<210> 60  
 <211> 40  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 60  
 aaaaagcata cttggaatgg cccaaggata ggtgtaaag 40

<210> 61  
 <211> 3772  
 <212> DNA  
 <213> Homo sapiens

<400> 61  
 gggggccttc ttgggcttgg ctgcttgga cacctgcctc caaggaccgg 50  
 cctcgagggg gtcgccggga aaggaggga agaaggaagg gcggggccgg 100

ccccctgcg cccgccccgc gcctctgcg gccctgtcc gccccggccc 150  
agccagccc agccccgagg gccggtcaca cgcgagcca gccggccgcc 200  
tcccgcgccc aagcgcgccc ctctgctgtg ccctgcgccc ttgccccggc 250  
ccagcttctg cgcgcgcagc ccgcccggcg cccccggtga ccgtgacctt 300  
gccctggggc cggggcgagg caggcatgtc ccgcccgggg accgctaccc 350  
cagcgctggc cctggtgctc ctggcagtga ccctggccgg ggtcggagcc 400  
cagggcgagc ccctcgagga ccctgattat tacgggcagg agatctggag 450  
ccgggagccc tactacgcgc gcccgagacc cgagctcgag accttctctc 500  
cgccgctgcc tgcggggccc ggggaggagt gggagcggcg cccgcaggag 550  
cccaggccgc ccaagagggc caccaagccc aagaaagctc ccaagaggga 600  
gaagtgggct ccggagccgc ctccaccagg taaacacagc aacaaaaaag 650  
ttatgagaac caagagctct gagaaggctg ccaacgatga tcacagtgtc 700  
cgtgtggccc gtgaagatgt cagagagagt tgcccacctc ttggtctgga 750  
aaccttaaaa atcacagact tccagctcca tgccctcacg gtgaagcgct 800  
atggcctggg ggcacatcga gggagactca acatccaggc gggcattaat 850  
gaaaatgatt tttatgacgg agcgtggtgc gcgggaagaa atgacctcca 900  
gcagtggatt gaagtggatg ctggcgccct gaccagattc actggtgtca 950  
tcactcaagg gaggaactcc ctctggctga gtgactgggt gacatcctat 1000  
aaggtcatgg tgagcaatga cagccacacg tgggtcactg ttaagaatgg 1050  
atctggagac atgatatttg agggaaacag tgagaaggag atccctgttc 1100  
tcaatgagct acccgctccc atggtggccc gctacatccg cataaaccct 1150  
cagtcctggt ttgataatgg gagcatctgc atgagaatgg agatcctggg 1200  
ctgcccactg ccagatccta ataattatta tcaccgccgg aacgagatga 1250  
ccaccactga tgacctggat tttaagcacc acaattataa ggaaatgcgc 1300  
cagttgatga aagttgtgaa tgaaatgtgt cccaatatca ccagaattta 1350  
caacattgga aaaagccacc agggcctgaa gctgtatgct gtggagatct 1400  
cagatcaccc tggggagcat gaagtcgggtg agcccagatt ccactacatc 1450  
gcgggggccc acggcaatga ggtgctgggc cgggagctgc tgetgetget 1500  
ggtgcagttc gtgtgtcagg agtacttggc ccggaatgcg cgcacgtcc 1550  
acctggtgga ggagacgcgg attcacgtcc tcccctccct caacccgat 1600  
ggctacgaga aggcctacga agggggctcg gagctgggag gctggtccct 1650  
gggacgctgg acccagcatg gaattgacat caacaacaac ttctctgatt 1700

taaacacgct gctctgggag gcagaggatc gacagaatgt ccccaggaaa 1750  
 gtccccaatc actatatgtc aatccctgag tggtttctgt cggaataatgc 1800  
 cacggtggct gccgagacca gagcagtcac agcctggatg gaaaaaatcc 1850  
 cttttgtgct gggcggaac ctgcagggcg gcgagctggt ggtggcgtat 1900  
 ccctacgacc tgggtgcggtc cccctggaag acgcaggaac acacccccac 1950  
 ccccgatgac caogtgttcc gctggctggc ctactcctat gcctccacac 2000  
 accgcctcat gacagacgcc cggaggaggg tgtgccacac ggaggacttc 2050  
 cagaaggagg agggcactgt caatggggcc tcctggcaca ccgtcgtctg 2100  
 aagtctgaac gatttcagct accttcatac aaactgcttc gaactgtcca 2150  
 tctacgtggg ctgtgataaa taccacatg agagccagct gcccgaggag 2200  
 tgggagaata accgggaatc tctgatcgtg ttcattggagc aggttcacgc 2250  
 tggcattaaa ggcttgggtga gagattcaca tggaaaagga atcccaaacg 2300  
 ccattatctc cgtagaaggc attaacatg acatccgaac agccaacgat 2350  
 ggggattact ggcgcctcct gaaccctgga gagtatgttg tcacagcaaa 2400  
 ggccgaaggt ttcactgcat ccaccaagaa ctgtatggtt ggctatgaca 2450  
 tggggggccac aaggtgtgac ttcacactta gcaaaaccaa catggccagg 2500  
 atccgagaga tcatggagaa gtttgggaag cagcccgta gcctgccagc 2550  
 caggcggtg aagctgcggg ggcggaagag acgacagcgt gggtgaccct 2600  
 cctgggccct tgagactcgt ctgggaccca tgcaaattaa accaacctgg 2650  
 tagtagctcc atagtggact cactcactgt tgtttcctct gtaattcaag 2700  
 aagtgcctgg aagagagggt gcattgtgag gcagggtcca aaaggggaagg 2750  
 ctggaggctg aggctgtttt cttttctttg ttcccattha tccaaataac 2800  
 ttggacagag cagcagagaa aagctgatgg gagtgagaga actcagcaag 2850  
 ccaacctggg aatcagagag agaaggagaa ggaggggagc ctgtccgttc 2900  
 agagcctctg gctgcataga aaaggattct ggtgcttccc ctgtttgcgt 2950  
 ggcagcaagg gttccacgtg catttgcaat ttgcacagct aaaattgcag 3000  
 catttcccca gctgggctgt cccaaatgtt accatttgag atgctcccag 3050  
 gcgtcctaag agaatccacc ctctctggcc ctgggacatt gcaagctgct 3100  
 acaaataaat tctgtgttct ttgacaata gcgtcattgc caagtgcaca 3150  
 tcagtgagcc tottgaatct gtttagtctc ctttttcaac aaaggagtgt 3200  
 gttcagaaaa ggagagagag gctgagatca ttcaggagt tgttgggcag 3250  
 caagcatgga gcttcttgca caaattctgg gtccataaac aacccccaaa 3300

gtccctgctg atccagtagc cctggagggtt ccccaggtag ggagagccag 3350  
 aggtgccagc cttcctgaag ggccagaaaa tttagcctgg atctcctctt 3400  
 ttacctgcta ggactggaaa gagccagaag tgggggtggcc tgaagccctc 3450  
 tctctgcttg aggtattgcc cctgtgtgga attgagtgtc catgggttgg 3500  
 cctcatatca gcctggggagt tatttttgat atgtagaatg ccagatcttc 3550  
 cagattaggc taaatgtaat gaaaacctct taggattatc tgtggagcat 3600  
 cagtttggga agaattattg aattatcttg caagaaaaaa gtatgtctca 3650  
 ctttttgtaa atgttgctgc ctcatcgacc tgggaaaaat gaaaaaaaaa 3700  
 aataaagcaa atggtgaagac ccttaaaaaa aaaaaaaaaa aaaaaaaaaa 3750  
 aaaaaaaaaa aaaaaaaaaa aa 3772

<210> 62

<211> 756

<212> PRT

<213> Homo sapiens

<400> 62

Met	Ser	Arg	Pro	Gly	Thr	Ala	Thr	Pro	Ala	Leu	Ala	Leu	Val	Leu	1	5	10	15
Leu	Ala	Val	Thr	Leu	Ala	Gly	Val	Gly	Ala	Gln	Gly	Ala	Ala	Leu	20	25	30	
Glu	Asp	Pro	Asp	Tyr	Tyr	Gly	Gln	Glu	Ile	Trp	Ser	Arg	Glu	Pro	35	40	45	
Tyr	Tyr	Ala	Arg	Pro	Glu	Pro	Glu	Leu	Glu	Thr	Phe	Ser	Pro	Pro	50	55	60	
Leu	Pro	Ala	Gly	Pro	Gly	Glu	Glu	Trp	Glu	Arg	Arg	Pro	Gln	Glu	65	70	75	
Pro	Arg	Pro	Pro	Lys	Arg	Ala	Thr	Lys	Pro	Lys	Lys	Ala	Pro	Lys	80	85	90	
Arg	Glu	Lys	Ser	Ala	Pro	Glu	Pro	Pro	Pro	Pro	Gly	Lys	His	Ser	95	100	105	
Asn	Lys	Lys	Val	Met	Arg	Thr	Lys	Ser	Ser	Glu	Lys	Ala	Ala	Asn	110	115	120	
Asp	Asp	His	Ser	Val	Arg	Val	Ala	Arg	Glu	Asp	Val	Arg	Glu	Ser	125	130	135	
Cys	Pro	Pro	Leu	Gly	Leu	Glu	Thr	Leu	Lys	Ile	Thr	Asp	Phe	Gln	140	145	150	
Leu	His	Ala	Ser	Thr	Val	Lys	Arg	Tyr	Gly	Leu	Gly	Ala	His	Arg	155	160	165	
Gly	Arg	Leu	Asn	Ile	Gln	Ala	Gly	Ile	Asn	Glu	Asn	Asp	Phe	Tyr	170	175	180	
Asp	Gly	Ala	Trp	Cys	Ala	Gly	Arg	Asn	Asp	Leu	Gln	Gln	Trp	Ile				

185										190				195					
Glu	Val	Asp	Ala	Arg	Arg	Leu	Thr	Arg		Phe	Thr	Gly	Val	Ile	Thr				
				200						205					210				
Gln	Gly	Arg	Asn	Ser	Leu	Trp	Leu	Ser		Asp	Trp	Val	Thr	Ser	Tyr				
				215						220					225				
Lys	Val	Met	Val	Ser	Asn	Asp	Ser	His		Thr	Trp	Val	Thr	Val	Lys				
				230						235					240				
Asn	Gly	Ser	Gly	Asp	Met	Ile	Phe	Glu		Gly	Asn	Ser	Glu	Lys	Glu				
				245						250					255				
Ile	Pro	Val	Leu	Asn	Glu	Leu	Pro	Val		Pro	Met	Val	Ala	Arg	Tyr				
				260						265					270				
Ile	Arg	Ile	Asn	Pro	Gln	Ser	Trp	Phe		Asp	Asn	Gly	Ser	Ile	Cys				
				275						280					285				
Met	Arg	Met	Glu	Ile	Leu	Gly	Cys	Pro		Leu	Pro	Asp	Pro	Asn	Asn				
				290						295					300				
Tyr	Tyr	His	Arg	Arg	Asn	Glu	Met	Thr		Thr	Thr	Asp	Asp	Leu	Asp				
				305						310					315				
Phe	Lys	His	His	Asn	Tyr	Lys	Glu	Met		Arg	Gln	Leu	Met	Lys	Val				
				320						325					330				
Val	Asn	Glu	Met	Cys	Pro	Asn	Ile	Thr		Arg	Ile	Tyr	Asn	Ile	Gly				
				335						340					345				
Lys	Ser	His	Gln	Gly	Leu	Lys	Leu	Tyr		Ala	Val	Glu	Ile	Ser	Asp				
				350						355					360				
His	Pro	Gly	Glu	His	Glu	Val	Gly	Glu		Pro	Glu	Phe	His	Tyr	Ile				
				365						370					375				
Ala	Gly	Ala	His	Gly	Asn	Glu	Val	Leu		Gly	Arg	Glu	Leu	Leu	Leu				
				380						385					390				
Leu	Leu	Val	Gln	Phe	Val	Cys	Gln	Glu		Tyr	Leu	Ala	Arg	Asn	Ala				
				395						400					405				
Arg	Ile	Val	His	Leu	Val	Glu	Glu	Thr		Arg	Ile	His	Val	Leu	Pro				
				410						415					420				
Ser	Leu	Asn	Pro	Asp	Gly	Tyr	Glu	Lys		Ala	Tyr	Glu	Gly	Gly	Ser				
				425						430					435				
Glu	Leu	Gly	Gly	Trp	Ser	Leu	Gly	Arg		Trp	Thr	His	Asp	Gly	Ile				
				440						445					450				
Asp	Ile	Asn	Asn	Asn	Phe	Pro	Asp	Leu		Asn	Thr	Leu	Leu	Trp	Glu				
				455						460					465				
Ala	Glu	Asp	Arg	Gln	Asn	Val	Pro	Arg		Lys	Val	Pro	Asn	His	Tyr				
				470						475					480				
Ile	Ala	Ile	Pro	Glu	Trp	Phe	Leu	Ser		Glu	Asn	Ala	Thr	Val	Ala				
				485						490					495				
Ala	Glu	Thr	Arg	Ala	Val	Ile	Ala	Trp		Met	Glu	Lys	Ile	Pro	Phe				

500	505	510
Val Leu Gly Gly Asn Leu Gln Gly Gly	Glu Leu Val Val Ala Tyr	
515	520	525
Pro Tyr Asp Leu Val Arg Ser Pro Trp	Lys Thr Gln Glu His Thr	
530	535	540
Pro Thr Pro Asp Asp His Val Phe Arg	Trp Leu Ala Tyr Ser Tyr	
545	550	555
Ala Ser Thr His Arg Leu Met Thr Asp	Ala Arg Arg Arg Val Cys	
560	565	570
His Thr Glu Asp Phe Gln Lys Glu Glu	Gly Thr Val Asn Gly Ala	
575	580	585
Ser Trp His Thr Val Ala Gly Ser Leu	Asn Asp Phe Ser Tyr Leu	
590	595	600
His Thr Asn Cys Phe Glu Leu Ser Ile	Tyr Val Gly Cys Asp Lys	
605	610	615
Tyr Pro His Glu Ser Gln Leu Pro Glu	Glu Trp Glu Asn Asn Arg	
620	625	630
Glu Ser Leu Ile Val Phe Met Glu Gln	Val His Arg Gly Ile Lys	
635	640	645
Gly Leu Val Arg Asp Ser His Gly Lys	Gly Ile Pro Asn Ala Ile	
650	655	660
Ile Ser Val Glu Gly Ile Asn His Asp	Ile Arg Thr Ala Asn Asp	
665	670	675
Gly Asp Tyr Trp Arg Leu Leu Asn Pro	Gly Glu Tyr Val Val Thr	
680	685	690
Ala Lys Ala Glu Gly Phe Thr Ala Ser	Thr Lys Asn Cys Met Val	
695	700	705
Gly Tyr Asp Met Gly Ala Thr Arg Cys	Asp Phe Thr Leu Ser Lys	
710	715	720
Thr Asn Met Ala Arg Ile Arg Glu Ile	Met Glu Lys Phe Gly Lys	
725	730	735
Gln Pro Val Ser Leu Pro Ala Arg Arg	Leu Lys Leu Arg Gly Arg	
740	745	750
Lys Arg Arg Gln Arg Gly		
755		

<210> 63

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 63

gttctcaatg agctacccgt cccc 24

<210> 64  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 64  
cgcgatgtag tggaactcgg gctc 24

<210> 65  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 65  
atccgcataa accctcagtc ctggtttgat aatgggagca tctgcatgag 50

<210> 66  
<211> 2854  
<212> DNA  
<213> Homo sapiens

<400> 66  
ctaagaggac aagatgaggc ccggcctctc atttctccta gcccttctgt 50  
tcttccttgg ccaagctgca ggggatttgg gggatgtggg acctccaatt 100  
cccagccccg gcttcagctc tttcccaggt gttgactcca gctccagctt 150  
cagctccagc tccaggtcgg gctccagctc cagccgcagc ttaggcagcg 200  
gaggttctgt gtcccagttg ttttccaatt tcacoggctc cgtggatgac 250  
cgtgggacct gccagtgtc tgtttccctg ccagacacca cctttcccg 300  
ggacagagtg gaacgcttgg aattcacagc tcatgttctt tctcagaagt 350  
ttgagaaaga actttctaaa gtgagggaat atgtccaatt aattagtgtg 400  
tatgaaaaga aactgttaaa cctaactgtc cgaattgaca tcatggagaa 450  
ggataccatt tcttacactg aactggactt cgagctgac aaggtagaag 500  
tgaaggagat ggaaaaactg gtcatacagc tgaaggagag ttttgggtga 550  
agctcagaaa ttgttgacca gctggagggtg gagataagaa atatgactct 600  
cttggtagag aagcttgaga cactagacaa aaacaatgtc cttgccattc 650  
gccgagaaat cgtggctctg aagaccaagc tgaaagagtg tgaggcctct 700  
aaagatcaaa acacccctgt cgtccaccct cctcccactc caggagctg 750  
tggtcatggt ggtgtggtga acatcagcaa accgtctgtg gttcagctca 800  
actggagagg gttttcttat ctatatggtg cttggggtag ggattactct 850  
ccccagcatc caaacaagg actgtattgg gtggcgccat tgaatacaga 900

tgggagactg ttggagtatt atagactgta caacacactg gatgatttgc 950  
 tattgtatat aaatgctoga gagttgcgga tcacctatgg ccaaggtagt 1000  
 ggtacagcag tttacaacaa caacatgtac gtcaacatgt acaacaccgg 1050  
 gaatattgcc agagttaacc tgaccaccaa cacgattgct gtgactcaaa 1100  
 ctctccctaa tgctgcctat aataaccgct tttcatatgc taatgttgct 1150  
 tggcaagata ttgactttgc tgtggatgag aatggattgt gggttattta 1200  
 ttcaactgaa gccagcactg gtaacatggg gattagtaaa ctcaatgaca 1250  
 ccacacttca ggtgctaaac acttggtata ccaagcagta taaaccatct 1300  
 gcttctaacg ccttcatggg atgtgggggt ctgtatgcca cccgtactat 1350  
 gaacaccaga acagaagaga ttttttacta ttatgacaca aacacaggga 1400  
 aagagggcaa actagacatt gtaatgcata agatgcagga aaaagtgcag 1450  
 agcattaact ataacccttt tgaccagaaa ctttatgtct ataacgatgg 1500  
 ttaccttctg aattatgac tttctgtctt gcagaagccc cagtaagctg 1550  
 tttaggagtt aggggtgaaag agaaaatgtt tgttgaaaaa atagtcttct 1600  
 ccacttactt agatatctgc aggggtgtct aaaagtgtgt tcattttgca 1650  
 gcaatgttta ggtgcatagt tctaccacac tagagatcta ggacatttgt 1700  
 cttgatttgg tgagttctct tgggaatcat ctgcctcttc aggcgcattt 1750  
 tgcaataaag tctgtctagg gtgggattgt cagaggtcta ggggcactgt 1800  
 gggcctagtg aagcctactg tgaggaggct tcactagaag ccttaaatta 1850  
 ggaattaagg aacttaaac tcagtatggc gtctagggat tctttgtaca 1900  
 ggaaatattg cccaatgact agtcctcatc catgtagcac cactaattct 1950  
 tccatgcctg gaagaaacct ggggacttag ttaggtagat taatatctgg 2000  
 agctcctcga gggaccaaact ctccaacttt tttttcccct cactagcacc 2050  
 tggaatgatg ctttgtatgt ggcagataag taaatttggc atgcttatat 2100  
 attctacatc tgtaaagtgc tgagttttat ggagagaggc ctttttatgc 2150  
 attaaattgt acatggcaaa taaatcccag aaggatctgt agatgaggca 2200  
 cctgcttttt cttttctctc attgtccacc ttactaaaag tcagtagaat 2250  
 cttctacctc ataacttcc tccaaaggca gctcagaaga ttagaaccag 2300  
 acttactaac caattccacc cccaccaac ccccttctac tgctacttt 2350  
 aaaaaaatta atagttttct atgggaactga tctaagatta gaaaaattaa 2400  
 ttttcttta tttcattatg gacttttatt tacatgactc taagactata 2450  
 agaaaatctg atggcagtga caaagtgcta gcatttattg ttatctaata 2500



aagaccttgg agcatatgtg caacttatga gtgtatcagt tgttgcatgt 2550  
aatttttgcc tttgtttaag cctggaactt gtaagaaaat gaaaatttaa 2600  
tttttttttc taggacgagc tatagaaaag ctattgagag tatctagtta 2650  
atcagtgcag tagttggaaa ccttgctggg gtatgtgatg tgcttctgtg 2700  
cttttgaatg actttatcat ctagtctttg tctatttttc ctttgatgtt 2750  
caagtcctag tctataggat tggcagttta aatgctttac tccccctttt 2800  
aaaataaatg attaaaatgt gctttgaaaa aaaaaaaaaa aaaaaaaaaa 2850  
aaaa 2854

<210> 67  
<211> 510  
<212> PRT  
<213> Homo sapiens

<400> 67  
Met Arg Pro Gly Leu Ser Phe Leu Leu Ala Leu Leu Phe Phe Leu  
1 5 10 15  
Gly Gln Ala Ala Gly Asp Leu Gly Asp Val Gly Pro Pro Ile Pro  
20 25 30  
Ser Pro Gly Phe Ser Ser Phe Pro Gly Val Asp Ser Ser Ser Ser  
35 40 45  
Phe Ser Ser Ser Ser Arg Ser Gly Ser Ser Ser Ser Arg Ser Leu  
50 55 60  
Gly Ser Gly Gly Ser Val Ser Gln Leu Phe Ser Asn Phe Thr Gly  
65 70 75  
Ser Val Asp Asp Arg Gly Thr Cys Gln Cys Ser Val Ser Leu Pro  
80 85 90  
Asp Thr Thr Phe Pro Val Asp Arg Val Glu Arg Leu Glu Phe Thr  
95 100 105  
Ala His Val Leu Ser Gln Lys Phe Glu Lys Glu Leu Ser Lys Val  
110 115 120  
Arg Glu Tyr Val Gln Leu Ile Ser Val Tyr Glu Lys Lys Leu Leu  
125 130 135  
Asn Leu Thr Val Arg Ile Asp Ile Met Glu Lys Asp Thr Ile Ser  
140 145 150  
Tyr Thr Glu Leu Asp Phe Glu Leu Ile Lys Val Glu Val Lys Glu  
155 160 165  
Met Glu Lys Leu Val Ile Gln Leu Lys Glu Ser Phe Gly Gly Ser  
170 175 180  
Ser Glu Ile Val Asp Gln Leu Glu Val Glu Ile Arg Asn Met Thr  
185 190 195  
Leu Leu Val Glu Lys Leu Glu Thr Leu Asp Lys Asn Asn Val Leu  
200 205 210

Ala	Ile	Arg	Arg	Glu	Ile	Val	Ala	Leu	Lys	Thr	Lys	Leu	Lys	Glu	215	220	225
Cys	Glu	Ala	Ser	Lys	Asp	Gln	Asn	Thr	Pro	Val	Val	His	Pro	Pro	230	235	240
Pro	Thr	Pro	Gly	Ser	Cys	Gly	His	Gly	Gly	Val	Val	Asn	Ile	Ser	245	250	255
Lys	Pro	Ser	Val	Val	Gln	Leu	Asn	Trp	Arg	Gly	Phe	Ser	Tyr	Leu	260	265	270
Tyr	Gly	Ala	Trp	Gly	Arg	Asp	Tyr	Ser	Pro	Gln	His	Pro	Asn	Lys	275	280	285
Gly	Leu	Tyr	Trp	Val	Ala	Pro	Leu	Asn	Thr	Asp	Gly	Arg	Leu	Leu	290	295	300
Glu	Tyr	Tyr	Arg	Leu	Tyr	Asn	Thr	Leu	Asp	Asp	Leu	Leu	Leu	Tyr	305	310	315
Ile	Asn	Ala	Arg	Glu	Leu	Arg	Ile	Thr	Tyr	Gly	Gln	Gly	Ser	Gly	320	325	330
Thr	Ala	Val	Tyr	Asn	Asn	Asn	Met	Tyr	Val	Asn	Met	Tyr	Asn	Thr	335	340	345
Gly	Asn	Ile	Ala	Arg	Val	Asn	Leu	Thr	Thr	Asn	Thr	Ile	Ala	Val	350	355	360
Thr	Gln	Thr	Leu	Pro	Asn	Ala	Ala	Tyr	Asn	Asn	Arg	Phe	Ser	Tyr	365	370	375
Ala	Asn	Val	Ala	Trp	Gln	Asp	Ile	Asp	Phe	Ala	Val	Asp	Glu	Asn	380	385	390
Gly	Leu	Trp	Val	Ile	Tyr	Ser	Thr	Glu	Ala	Ser	Thr	Gly	Asn	Met	395	400	405
Val	Ile	Ser	Lys	Leu	Asn	Asp	Thr	Thr	Leu	Gln	Val	Leu	Asn	Thr	410	415	420
Trp	Tyr	Thr	Lys	Gln	Tyr	Lys	Pro	Ser	Ala	Ser	Asn	Ala	Phe	Met	425	430	435
Val	Cys	Gly	Val	Leu	Tyr	Ala	Thr	Arg	Thr	Met	Asn	Thr	Arg	Thr	440	445	450
Glu	Glu	Ile	Phe	Tyr	Tyr	Tyr	Asp	Thr	Asn	Thr	Gly	Lys	Glu	Gly	455	460	465
Lys	Leu	Asp	Ile	Val	Met	His	Lys	Met	Gln	Glu	Lys	Val	Gln	Ser	470	475	480
Ile	Asn	Tyr	Asn	Pro	Phe	Asp	Gln	Lys	Leu	Tyr	Val	Tyr	Asn	Asp	485	490	495
Gly	Tyr	Leu	Leu	Asn	Tyr	Asp	Leu	Ser	Val	Leu	Gln	Lys	Pro	Gln	500	505	510

<210> 68  
 <211> 410  
 <212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 206, 217, 387

<223> unknown base

<400> 68

gctctgaaga ccaagctgaa agagtgtgag gcctctaaag atcaaacacc 50  
cctgtcgtcc accctcctcc cactccaggg agctgtgggtc atgggtggtgt 100  
ggtgaacatc agcaaaccgt ctgtgggttca gctcaactgg agagggtttt 150  
cttatctata tgggtgcttgg ggtagggatt actctcccca gcatccaaac 200  
aaagggnatgt attggngggc gccattgaat acagatggga gactgttgga 250  
gtattataga ctgtacaacc cactggatga tttgctattg tatataaatg 300  
ctcgagagtt gcggatcacc tatggccaag gtagtggtag agcagtttac 350  
aacaacaaca tgtacgtcaa catgtacaac accgggnata ttgccagagt 400  
taacctgacc 410

<210> 69

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 69

agctgtgggtc atgggtggtgt ggtg 24

<210> 70

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 70

ctaccttggc cataggtgat ccgc 24

<210> 71

<211> 42

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 71

catcagcaaa ccgtctgtgg ttcagotcaa ctggagaggg tt 42

<210> 72

<211> 3127

<212> DNA

<213> Homo sapiens

<400> 72

tctcgcagat agtaaataat ctcggaagg cgagaaagaa gctgtctcca 50  
tcttgtctgt atccgctgct cttgtgacgt tgtggagatg gggagcgtcc 100  
tggggctgtg ctccatggcg agctggatac catgtttgtg tggaagtgcc 150  
ccgtgtttgc tatgccgatg ctgtcctagt ggaaacaact ccaactgtaac 200  
tagattgatc tatgcacttt tcttgcttgt tggagtatgt gtagcttgtg 250  
taatgttgat accaggaatg gaagaacaac tgaataagat tcctggattt 300  
tgtgagaatg agaaagggtg tgtcccttgt aacattttgg ttggctataa 350  
agctgtatat cgtttgtgct ttggtttggc tatgttctat cttcttctct 400  
ctttactaat gatcaaagtg aagagtagca gtgatcctag agctgcagtg 450  
cacaatggat ttgggttctt taaatttgct gcagcaattg caattattat 500  
tggggcattc ttcatccag aaggaaactt tacaactgtg tggttttatg 550  
taggcatggc aggtgccttt tgtttcatcc tcatacaact agtcttactt 600  
attgattttg cacattcatg gaatgaatcg tgggttgaaa aaatggaaga 650  
agggaaactcg agatgttggg atgcagcctt gttatcagct acagctctga 700  
attatctgct gtcttttagtt gctatcgtcc tgttctttgt ctactacact 750  
catccagcca gttgttcaga aaacaaggcg ttcatcagtg tcaacatgct 800  
cctctgcgtt ggtgcttctg taatgtctat actgccaaaa atccaagaat 850  
cacaaccaag atctggtttg ttacagtctt cagtaattac agtctacaca 900  
atgtatttga catggtcagc tatgaccaat gaaccagaaa caaattgcaa 950  
cccaagtcta ctaagcataa ttggctacaa tacaacaagc actgtcccaa 1000  
aggaagggca gtcagtccag tgggtggcatg ctcaaggaat tataggacta 1050  
attctctttt tgttgtgtgt attttattcc agcatccgta cttcaaacaa 1100  
tagtcagggt aataaactga ctctaacaag tgatgaatct acattaatag 1150  
aagatgggtg agctagaagt gatggatcac tggaggatgg ggacgatgtt 1200  
caccgagctg tagataatga aagggatggg gtcacttaca gttattcctt 1250  
ctttcacttc atgcttttcc tggettcaact ttatatcatg atgaccotta 1300  
ccaactggtc caggatgaa cctctcgtg agatgaaaag tcagtggaca 1350  
gctgtctggg tgaatatctc ttccagttgg attggcatcg tgctgtatgt 1400  
ttggacactc gtggcaccac ttgttcttac aaatcgtgat tttgactgag 1450  
tgagacttct agcatgaaag tcccactttg attattgctt atttgaaaac 1500  
agtattccca acttttgtaa agttgtgtat gtttttgctt cccatgtaac 1550

ttctccagtg ttctggcatg aattagattt tactgcttgt cattttgtta 1600  
 ttttcttacc aagtgcattg atatgtgaag tagaatgaat tgcagaggaa 1650  
 agttttatga atatggtgat gagttagtaa aagtggccat tattgggctt 1700  
 attctctgct ctatagttgt gaaatgaaga gtaaaaacaa atttgtttga 1750  
 ctattttaaa attatattag accttaagct gttttagcaa gcattaaagc 1800  
 aaatgtatgg ctgccttttg aaatatttga tgtgttgccct ggcaggatac 1850  
 tgcaaagaac atgggtttatt ttaaaattta taaacaagtc acttaaatgc 1900  
 cagttgtctg aaaaatctta taaggtttta cccttgatac ggaatttaca 1950  
 caggtaggga gtgttttagtg gacaatagtg taggttatgg atggaggtgt 2000  
 cgggtactaaa ttgaataacg agtaaataat cttacttggg tagagatggc 2050  
 ctttgccaac aaagtgaact gttttggttg ttttaaactc atgaagtatg 2100  
 ggttcagtgg aaatgtttgg aactctgaag gatttagaca aggttttgaa 2150  
 aaggataatc atgggttaga aggaagtgtt ttgaaagtca ctttgaaagt 2200  
 tagttttggg ccagcacgg tagctcacc ttggtaatcc cagcactttg 2250  
 ggagcttaag tgggtagatt acttgagccc aggaattcag accagcttgg 2300  
 cacatggtga acctgttcta taaaaataat ctggctttga gcatatgcct 2350  
 gtggtccagc actgagaggc tagtgaagat tgctgagccc agagccaaag 2400  
 gttgcagtga gcaagtcacg tctactgact ctagctggca cagagtaagc 2450  
 caaaaaata tatatatatt gaaatcaagg aggcaaaatt ttgacagga 2500  
 aggaagtaac tgcaaacca ctaggcttta gtaggtactt atataaaatc 2550  
 tagtccagtt ctctcattta aaaaaatgaa gacactgaaa tacagactta 2600  
 aatagctcag atagctaatt aggaaatttc aagttggcca ataatagcat 2650  
 tctctctgac atttaaaaat aatttctatt caaaatacat gcatattgat 2700  
 ttacacctca tactgtgata attaatgtga tgtggattgc tgggtgtccag 2750  
 catgacccat aaacaggtca gaagaatgat ggaatgtttt agaataaaact 2800  
 cctgcttata gtatactaca cagttcaaaa gatgtttaaa atgcttttgt 2850  
 atttactgcc atgtaattga aatatataga ttattgtaac ctttcaacct 2900  
 gaaaatcaag cagtatgaga gtttagttat ttgtatgtgt cactagtgtc 2950  
 taatgaagct tttaaaatct acaatttctt ctttaaaaat atttattaat 3000  
 gtgaatggaa tataacaatt cagcttaatt cccaacctt attctgtgtg 3050  
 tagacattgt attccacaat tttgaatggc tgtgttttac ctctaaataa 3100  
 atgaattcag agaaaaaaaa aaaaaaa 3127

<210> 73  
 <211> 453  
 <212> PRT  
 <213> Homo sapiens

<400> 73

Met	Gly	Ser	Val	Leu	Gly	Leu	Cys	Ser	Met	Ala	Ser	Trp	Ile	Pro
1				5					10					15
Cys	Leu	Cys	Gly	Ser	Ala	Pro	Cys	Leu	Leu	Cys	Arg	Cys	Cys	Pro
				20					25					30
Ser	Gly	Asn	Asn	Ser	Thr	Val	Thr	Arg	Leu	Ile	Tyr	Ala	Leu	Phe
				35					40					45
Leu	Leu	Val	Gly	Val	Cys	Val	Ala	Cys	Val	Met	Leu	Ile	Pro	Gly
				50					55					60
Met	Glu	Glu	Gln	Leu	Asn	Lys	Ile	Pro	Gly	Phe	Cys	Glu	Asn	Glu
				65					70					75
Lys	Gly	Val	Val	Pro	Cys	Asn	Ile	Leu	Val	Gly	Tyr	Lys	Ala	Val
				80					85					90
Tyr	Arg	Leu	Cys	Phe	Gly	Leu	Ala	Met	Phe	Tyr	Leu	Leu	Leu	Ser
				95					100					105
Leu	Leu	Met	Ile	Lys	Val	Lys	Ser	Ser	Ser	Asp	Pro	Arg	Ala	Ala
				110					115					120
Val	His	Asn	Gly	Phe	Trp	Phe	Phe	Lys	Phe	Ala	Ala	Ala	Ile	Ala
				125					130					135
Ile	Ile	Ile	Gly	Ala	Phe	Phe	Ile	Pro	Glu	Gly	Thr	Phe	Thr	Thr
				140					145					150
Val	Trp	Phe	Tyr	Val	Gly	Met	Ala	Gly	Ala	Phe	Cys	Phe	Ile	Leu
				155					160					165
Ile	Gln	Leu	Val	Leu	Leu	Ile	Asp	Phe	Ala	His	Ser	Trp	Asn	Glu
				170					175					180
Ser	Trp	Val	Glu	Lys	Met	Glu	Glu	Gly	Asn	Ser	Arg	Cys	Trp	Tyr
				185					190					195
Ala	Ala	Leu	Leu	Ser	Ala	Thr	Ala	Leu	Asn	Tyr	Leu	Leu	Ser	Leu
				200					205					210
Val	Ala	Ile	Val	Leu	Phe	Phe	Val	Tyr	Tyr	Thr	His	Pro	Ala	Ser
				215					220					225
Cys	Ser	Glu	Asn	Lys	Ala	Phe	Ile	Ser	Val	Asn	Met	Leu	Leu	Cys
				230					235					240
Val	Gly	Ala	Ser	Val	Met	Ser	Ile	Leu	Pro	Lys	Ile	Gln	Glu	Ser
				245					250					255
Gln	Pro	Arg	Ser	Gly	Leu	Leu	Gln	Ser	Ser	Val	Ile	Thr	Val	Tyr
				260					265					270
Thr	Met	Tyr	Leu	Thr	Trp	Ser	Ala	Met	Thr	Asn	Glu	Pro	Glu	Thr
				275					280					285

Asn	Cys	Asn	Pro	Ser	Leu	Leu	Ser	Ile	Ile	Gly	Tyr	Asn	Thr	Thr	290	295	300
Ser	Thr	Val	Pro	Lys	Glu	Gly	Gln	Ser	Val	Gln	Trp	Trp	His	Ala	305	310	315
Gln	Gly	Ile	Ile	Gly	Leu	Ile	Leu	Phe	Leu	Leu	Cys	Val	Phe	Tyr	320	325	330
Ser	Ser	Ile	Arg	Thr	Ser	Asn	Asn	Ser	Gln	Val	Asn	Lys	Leu	Thr	335	340	345
Leu	Thr	Ser	Asp	Glu	Ser	Thr	Leu	Ile	Glu	Asp	Gly	Gly	Ala	Arg	350	355	360
Ser	Asp	Gly	Ser	Leu	Glu	Asp	Gly	Asp	Asp	Val	His	Arg	Ala	Val	365	370	375
Asp	Asn	Glu	Arg	Asp	Gly	Val	Thr	Tyr	Ser	Tyr	Ser	Phe	Phe	His	380	385	390
Phe	Met	Leu	Phe	Leu	Ala	Ser	Leu	Tyr	Ile	Met	Met	Thr	Leu	Thr	395	400	405
Asn	Trp	Ser	Arg	Tyr	Glu	Pro	Ser	Arg	Glu	Met	Lys	Ser	Gln	Trp	410	415	420
Thr	Ala	Val	Trp	Val	Lys	Ile	Ser	Ser	Ser	Trp	Ile	Gly	Ile	Val	425	430	435
Leu	Tyr	Val	Trp	Thr	Leu	Val	Ala	Pro	Leu	Val	Leu	Thr	Asn	Arg	440	445	450

Asp Phe Asp

<210> 74  
 <211> 480  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 48, 163  
 <223> unknown base

<400> 74  
 gcgagaaaga agctgtctcc atcttgtctg tatcccgctg cttcttgnga 50  
 cggtgtggag atggggagcg tccctggggc tgtgctccat ggcgagctgg 100  
 ataccatgtt tgtgtggaag tgccccgtgt ttgctatgcc gatgctgtcc 150  
 tagtggaac aantccactg taactagatt gatctatgca cttttcttgc 200  
 ttgttgagat atgtgtagct tgtgtaatgt tgataccagg aatggaagaa 250  
 caactgaata agattcctgg attttgtgag aatgagaaaag gtgttgtccc 300  
 ttgtaacatt ttggttggtg ataaagctgt atatcgtttg tgctttggtt 350  
 tggctatgtt ctatcttctt ctctctttac taatgatcaa agtgaagagt 400

agcagtgatc ctagagctgc agtgcacaat ggattttggt tcttttaaatt 450  
tgctgcagca attgcaatta ttattggggc 480

<210> 75  
<211> 438  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 32, 65, 92, 121, 142, 154, 170, 293, 315, 323  
<223> unknown base

<400> 75  
gttattgtga actttgtgga gatgggaggt cntggggctg tgttccatgg 50  
cgagctggat accangtttg tgtggaagtg ccccggtgtt gntatgccga 100  
tgctgtccta gtggaaacaa ntccactgta attagattga tntatgcact 150  
tttnttgctt gttggagtan gtgtagcttg tgtaatgttg ataccaggaa 200  
tggaagaaca actgaataag attcctggat tttgtgagaa tgagaaaggt 250  
gttgtccctt gtaacatttt ggttggctat aaagctgtat atngtttgtg 300  
ctttggtttg gctangttct atnttcttct ctctttacta atgatcaaag 350  
tgaagagtag cagtgatcct agagctgcag tgcacaatgg attttggttt 400  
tttaaatttg ctgcagcaat tgcaattatt attggggc 438

<210> 76  
<211> 473  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 48  
<223> unknown base

<400> 76  
aagaagctgt ctccatcttg tctgtatccg ctgctcttgt gaacgttntg 50  
gagatgggga gcgtccttgg ggttgtgctc catggcgagc tggataccat 100  
gtttgtgtgg aagtgccccg tgtttgctat gccgatgctg tcctagtggga 150  
aacaactcca ctgtaactag attgatctat gcacttttct tgcttggttg 200  
agtatgtgta gcttgtgtaa tgttgatacc aggaatggaa gaacaactga 250  
ataagattcc tggattttgt gagaatgaga aaggtgttgt cccttgtaac 300  
attttggttg gctataaagc tgtatatcgt ttgtgctttg gtttggctat 350  
gttctatctt cttctctctt tactaatgat caaagtgaag agtagcagt 400  
atcctagagc tgcagtgcac aatggatttt ggttctttta atttgctgca 450  
gcaattgcaa ttattattgg ggc 473



<210> 77  
<211> 666  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 21, 111  
<223> unknown base

<400> 77  
gctgtcctta gtggaacaa ntccaacttg taacttggat tgatctatgc 50  
actttttcct tgcttgttgg agtatgtgta gctttgtgta atgttgttcc 100  
caggattgga ngaacaactg aataagattc ctggattttt gtgagaatga 150  
gaaaggtggt gtcccccttg aacatttttg gttggctata aagctgtata 200  
tcgtttgtgc tttggtttgg ctatgttcta tcttcttctc tctttactaa 250  
tgatcaaagt gaagagtagc agtgatccta gagctgcagt gcacaatgga 300  
ttttggttct ttaaatttgc tgcagcaatt gcaattatta ttggggcatt 350  
cttcattcca gaaggaaact ttacaactgt gtggttttat gtaggcatgg 400  
cagggtgcctt ttgtttcatc ctcatacaac tagtcttact tattgatatt 450  
gcacattcat ggaatgaatc gtgggttgaa aaaatggaag aagggaactc 500  
gagatgttgg tatgcagcct tgttatcagc tacagctctg aattatctgc 550  
tgtctttagt tgctatogtc ctgttctttg tctactacac tcatccagcc 600  
agttgttcag aaaacaaggc gttcatcagt gtcaacatgc tcctctgcgt 650  
tggtgcttct gtaatg 666

<210> 78  
<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 78  
atgtttgtgt ggaagtgcgc cg 22

<210> 79  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 79  
gtcaacatgc tcctctgc 18

<210> 80  
<211> 26

<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 80  
aatccattgt gcactgcagc tctagg 26

<210> 81  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 81  
gagcatgccca ccactggact gac 23

<210> 82  
<211> 54  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 82  
gccgatgctg tcctagtga aacaactcca ctgtaactag attgatctat 50  
gcac 54

<210> 83  
<211> 3906  
<212> DNA  
<213> Homo sapiens

<400> 83  
ctcgggcgcg cacaggcagc tcggtttgcc ctgcgattga gctgcgggtc 50  
gcgggccggcg ccggcctctc caatggcaaa tgtgtgtggc tggaggcgag 100  
cgcgaggctt tcggcaaagg cagtcgagtg tttgcagacc ggggcgagtc 150  
ctgtgaaagc agataaaaga aaacatttat taacgtgtca ttacgagggg 200  
agcgcccggc cggggctgtc gcaactcccc cggaacattt ggctccctcc 250  
agctccgaga gaggagaaga agaaagcgga aaagaggcag attcacgtcg 300  
tttccagcca agtggacctg atcgatggcc ctctgaatt tatcacgata 350  
tttgatttat tagcgatgcc ccttggtttg tgtgttacgc acacacacgt 400  
gcacacaagg ctctggctcg ctccctccc tcgtttccag ctctgggcg 450  
aatccacat ctgtttcaac tctccgccga gggcgagcag gagcgagagt 500  
gtgtcgaatc tgcgagtga gagggacgag ggaaaagaaa caaagccaca 550  
gacgcaactt gagactcccc catcccaaaa gaagcaccag atcagcaaaa 600

aaagaagatg ggccccccga gcctcgtgct gtgcttgctg tccgcaactg 650  
tgtttctccct gctgggtgga agctcggcct tcctgtcgca ccaccgcctg 700  
aaaggcaggt ttcagagggga ccgcaggaac atccgcccc aacatcatcct 750  
ggtgctgacg gacgaccagg atgtggagct gggttccatg caggtgatga 800  
acaagacccg gcgcatcatg gagcagggcg gggcgcaact catcaacgcc 850  
ttcgtgacca caccatgtg ctgcccctca cgctcctcca tcctcactgg 900  
caagtacgtc cacaaccaca acacctacac caacaatgag aactgctcct 950  
cgccctcctg gcaggcacag cagcagagcc gcacctttgc cgtgtacctc 1000  
aatagcactg gctaccggac agctttcttc gggaagtatc ttaatgaata 1050  
caacggctcc tacgtgccac ccggctggaa ggagtgggtc ggactcctta 1100  
aaaactcccg cttttataac tacacgctgt gtcggaacgg ggtgaaagag 1150  
aagcacggct ccgactactc caaggattac ctacagacc tcatcaccaa 1200  
tgacagcgtg agcttcttcc gcacgtccaa gaagatgtac ccgcacaggc 1250  
cagtcctcat ggtcatcagc catgcagccc cccacggccc tgaggattca 1300  
gccccacaat attcacgctt cttcccaaac gcattctcagc acatcacgcc 1350  
gagctacaac tacgcgcccc acccggacaa aactggatc atgcgctaca 1400  
cggggcccat gaagcccatc cacatggaat tcaccaacat gctccagcgg 1450  
aagcgtttgc agaccctcat gtcgggtggac gactccatgg agacgattta 1500  
caacatgctg gttgagacgg gcgagctgga caacacgtac atcgtatata 1550  
ccgcogacca cggttaccac atcggccagt ttggcctggt gaaagggaaa 1600  
tccatgccat atgagtttga catcagggtc ccgttctacg tgagggggccc 1650  
caacgtggaa gccggctgtc tgaatcccc catcgtcctc aacattgacc 1700  
tgccccccac catcctggac attgcaggcc tggacatacc tgcggatatg 1750  
gacgggaaat ccattctcaa gctgctggac acggagcggc cggatgaatcg 1800  
gtttcacttg aaaaagaaga tgagggctct gcgggactcc ttcttggtgg 1850  
agagaggcaa gctgctacac aagagagaca atgacaaggt ggacgcccag 1900  
gaggagaact ttctgcccc gtaccagcgt gtgaaggacc tgtgtcagcg 1950  
tgctgagtac cagacggcgt gtgagcagct gggacagaag tggcagtgtg 2000  
tggaggacgc cagggggaag ctgaagctgc ataagtcaa gggcccatg 2050  
cggctgggcg gcagcagagc cctctccaac ctctgcccc agtactacgg 2100  
gcagggcagc gaggcctgca cctgtgacag cggggactac aagctcagcc 2150  
tggccggacg ccggaaaaaa ctcttcaaga agaagtacaa ggccagctat 2200

gtccgcagtc gctccatccg ctcagtggcc atcgaggtgg acggcaggg 2250  
 gtaccacgta ggccctgggtg atgcgcgcca gccccgaaac ctcaccaagc 2300  
 ggacttgcc agggggccctt gaggaccaag atgacaagga tgggtggggac 2350  
 ttcagtggca ctggaggcct tcccgaactac tcagccgcca accccattaa 2400  
 agtgacacat cgggtgctaca tcctagagaa cgacacagtc cagtgtgacc 2450  
 tggacctgta caagtccctg caggcctgga aagaccacaa gctgcacatc 2500  
 gaccacgaga ttgaaacctt gcagaacaaa attaagaacc tgagggaagt 2550  
 ccgaggtcac ctgaagaaaa agcggccaga agaattgtgac tgtcacaaaa 2600  
 tcagctacca caccagcac aaaggccgcc tcaagcacag aggctccagt 2650  
 ctgcatcctt tcaggaaggg cctgcaagag aaggacaagg tgtggctgtt 2700  
 gcgggagcag aagcgcaaga agaaactccg caagctgctc aagcgctgc 2750  
 agaacaacga cagtgccagc atgccaggcc tcacgtgctt caccacgac 2800  
 aaccagcact ggcagacggc gcctttcttg aactggggc ctttctgtgc 2850  
 ctgcaccagc gccacaata acacgtactg gtgcatgagg accatcaatg 2900  
 agactcaciaa tttctcttc tgtgaatttg caactggctt cctagagtac 2950  
 tttgatctca acacagaccc ctaccagctg atgaatgcag tgaacacact 3000  
 ggacagggat gtcctcaacc agctacacgt acagctcatg gagctgagga 3050  
 gctgcaaggg ttacaagcag tgtaaccccc ggactcgaaa catggacctg 3100  
 gatggaggaa gctatgagca atacaggcag tttcagcgtc gaaagtggcc 3150  
 agaaatgaag agaccttctt ccaaactact gggacaactg tgggaaggct 3200  
 ggggaaggta agaaacaaca gaggtggacc tccaaaaaca tagaggcatc 3250  
 acctgactgc acaggcaatg aaaaacctg tgggtgattt ccagcagacc 3300  
 tgtgctattg gccaggaggc ctgagaaagc aagcacgcac tctcagtcaa 3350  
 catgacagat tctggaggat aaccagcagg agcagagata acttcaggaa 3400  
 gtccattttt gcccctgctt ttgctttgga ttatacctca ccagctgcac 3450  
 aaaatgcatt ttttcgtatc aaaaagtcac cactaacctt cccccagaag 3500  
 ctcacaaagg aaaacggaga gagcgagcga gagagatttc cttggaaatt 3550  
 tctcccaagg gcgaaagtca ttggaatttt taaatcatag gggaaaagca 3600  
 gtccctgttct aaatcctctt attcttttgg tttgtcacia agaaggaaact 3650  
 aagaagcagg acagaggcaa cgtggagagg ctgaaaacag tgcagagacg 3700  
 tttgacaatg agtcagtagc acaaaagaga tgacatttac ctagcactat 3750  
 aaacctgggt tgcctctgaa gaaactgcct tcattgtata tatgtgacta 3800

tttacatgta atcaacatgg gaacttttag gggaacctaa taagaaatcc 3850  
 caattttcag gagtgggtgt gtcaataaac gctctgtggc cagtgtaaaa 3900  
 gaaaaa 3906

<210> 84  
 <211> 867  
 <212> PRT  
 <213> Homo sapiens

<400> 84  
 Met Gly Pro Pro Ser Leu Val Leu Cys Leu Leu Ser Ala Thr Val  
 1 5 10 15  
 Phe Ser Leu Leu Gly Gly Ser Ser Ala Phe Leu Ser His His Arg  
 20 25 30  
 Leu Lys Gly Arg Phe Gln Arg Asp Arg Arg Asn Ile Arg Pro Asn  
 35 40 45  
 Ile Ile Leu Val Leu Thr Asp Asp Gln Asp Val Glu Leu Gly Ser  
 50 55 60  
 Met Gln Val Met Asn Lys Thr Arg Arg Ile Met Glu Gln Gly Gly  
 65 70 75  
 Ala His Phe Ile Asn Ala Phe Val Thr Thr Pro Met Cys Cys Pro  
 80 85 90  
 Ser Arg Ser Ser Ile Leu Thr Gly Lys Tyr Val His Asn His Asn  
 95 100 105  
 Thr Tyr Thr Asn Asn Glu Asn Cys Ser Ser Pro Ser Trp Gln Ala  
 110 115 120  
 Gln His Glu Ser Arg Thr Phe Ala Val Tyr Leu Asn Ser Thr Gly  
 125 130 135  
 Tyr Arg Thr Ala Phe Phe Gly Lys Tyr Leu Asn Glu Tyr Asn Gly  
 140 145 150  
 Ser Tyr Val Pro Pro Gly Trp Lys Glu Trp Val Gly Leu Leu Lys  
 155 160 165  
 Asn Ser Arg Phe Tyr Asn Tyr Thr Leu Cys Arg Asn Gly Val Lys  
 170 175 180  
 Glu Lys His Gly Ser Asp Tyr Ser Lys Asp Tyr Leu Thr Asp Leu  
 185 190 195  
 Ile Thr Asn Asp Ser Val Ser Phe Phe Arg Thr Ser Lys Lys Met  
 200 205 210  
 Tyr Pro His Arg Pro Val Leu Met Val Ile Ser His Ala Ala Pro  
 215 220 225  
 His Gly Pro Glu Asp Ser Ala Pro Gln Tyr Ser Arg Leu Phe Pro  
 230 235 240  
 Asn Ala Ser Gln His Ile Thr Pro Ser Tyr Asn Tyr Ala Pro Asn  
 245 250 255

Pro	Asp	Lys	His	Trp	Ile	Met	Arg	Tyr	Thr	Gly	Pro	Met	Lys	Pro	260	265	270
Ile	His	Met	Glu	Phe	Thr	Asn	Met	Leu	Gln	Arg	Lys	Arg	Leu	Gln	275	280	285
Thr	Leu	Met	Ser	Val	Asp	Asp	Ser	Met	Glu	Thr	Ile	Tyr	Asn	Met	290	295	300
Leu	Val	Glu	Thr	Gly	Glu	Leu	Asp	Asn	Thr	Tyr	Ile	Val	Tyr	Thr	305	310	315
Ala	Asp	His	Gly	Tyr	His	Ile	Gly	Gln	Phe	Gly	Leu	Val	Lys	Gly	320	325	330
Lys	Ser	Met	Pro	Tyr	Glu	Phe	Asp	Ile	Arg	Val	Pro	Phe	Tyr	Val	335	340	345
Arg	Gly	Pro	Asn	Val	Glu	Ala	Gly	Cys	Leu	Asn	Pro	His	Ile	Val	350	355	360
Leu	Asn	Ile	Asp	Leu	Ala	Pro	Thr	Ile	Leu	Asp	Ile	Ala	Gly	Leu	365	370	375
Asp	Ile	Pro	Ala	Asp	Met	Asp	Gly	Lys	Ser	Ile	Leu	Lys	Leu	Leu	380	385	390
Asp	Thr	Glu	Arg	Pro	Val	Asn	Arg	Phe	His	Leu	Lys	Lys	Lys	Met	395	400	405
Arg	Val	Trp	Arg	Asp	Ser	Phe	Leu	Val	Glu	Arg	Gly	Lys	Leu	Leu	410	415	420
His	Lys	Arg	Asp	Asn	Asp	Lys	Val	Asp	Ala	Gln	Glu	Glu	Asn	Phe	425	430	435
Leu	Pro	Lys	Tyr	Gln	Arg	Val	Lys	Asp	Leu	Cys	Gln	Arg	Ala	Glu	440	445	450
Tyr	Gln	Thr	Ala	Cys	Glu	Gln	Leu	Gly	Gln	Lys	Trp	Gln	Cys	Val	455	460	465
Glu	Asp	Ala	Thr	Gly	Lys	Leu	Lys	Leu	His	Lys	Cys	Lys	Gly	Pro	470	475	480
Met	Arg	Leu	Gly	Gly	Ser	Arg	Ala	Leu	Ser	Asn	Leu	Val	Pro	Lys	485	490	495
Tyr	Tyr	Gly	Gln	Gly	Ser	Glu	Ala	Cys	Thr	Cys	Asp	Ser	Gly	Asp	500	505	510
Tyr	Lys	Leu	Ser	Leu	Ala	Gly	Arg	Arg	Lys	Lys	Leu	Phe	Lys	Lys	515	520	525
Lys	Tyr	Lys	Ala	Ser	Tyr	Val	Arg	Ser	Arg	Ser	Ile	Arg	Ser	Val	530	535	540
Ala	Ile	Glu	Val	Asp	Gly	Arg	Val	Tyr	His	Val	Gly	Leu	Gly	Asp	545	550	555
Ala	Ala	Gln	Pro	Arg	Asn	Leu	Thr	Lys	Arg	His	Trp	Pro	Gly	Ala	560	565	570

Pro	Glu	Asp	Gln	Asp	Asp	Lys	Asp	Gly	Gly	Asp	Phe	Ser	Gly	Thr	
				575					580					585	
Gly	Gly	Leu	Pro	Asp	Tyr	Ser	Ala	Ala	Asn	Pro	Ile	Lys	Val	Thr	
				590					595					600	
His	Arg	Cys	Tyr	Ile	Leu	Glu	Asn	Asp	Thr	Val	Gln	Cys	Asp	Leu	
				605					610					615	
Asp	Leu	Tyr	Lys	Ser	Leu	Gln	Ala	Trp	Lys	Asp	His	Lys	Leu	His	
				620					625					630	
Ile	Asp	His	Glu	Ile	Glu	Thr	Leu	Gln	Asn	Lys	Ile	Lys	Asn	Leu	
				635					640					645	
Arg	Glu	Val	Arg	Gly	His	Leu	Lys	Lys	Lys	Arg	Pro	Glu	Glu	Cys	
				650					655					660	
Asp	Cys	His	Lys	Ile	Ser	Tyr	His	Thr	Gln	His	Lys	Gly	Arg	Leu	
				665					670					675	
Lys	His	Arg	Gly	Ser	Ser	Leu	His	Pro	Phe	Arg	Lys	Gly	Leu	Gln	
				680					685					690	
Glu	Lys	Asp	Lys	Val	Trp	Leu	Leu	Arg	Glu	Gln	Lys	Arg	Lys	Lys	
				695					700					705	
Lys	Leu	Arg	Lys	Leu	Leu	Lys	Arg	Leu	Gln	Asn	Asn	Asp	Thr	Cys	
				710					715					720	
Ser	Met	Pro	Gly	Leu	Thr	Cys	Phe	Thr	His	Asp	Asn	Gln	His	Trp	
				725					730					735	
Gln	Thr	Ala	Pro	Phe	Trp	Thr	Leu	Gly	Pro	Phe	Cys	Ala	Cys	Thr	
				740					745					750	
Ser	Ala	Asn	Asn	Asn	Thr	Tyr	Trp	Cys	Met	Arg	Thr	Ile	Asn	Glu	
				755					760					765	
Thr	His	Asn	Phe	Leu	Phe	Cys	Glu	Phe	Ala	Thr	Gly	Phe	Leu	Glu	
				770					775					780	
Tyr	Phe	Asp	Leu	Asn	Thr	Asp	Pro	Tyr	Gln	Leu	Met	Asn	Ala	Val	
				785					790					795	
Asn	Thr	Leu	Asp	Arg	Asp	Val	Leu	Asn	Gln	Leu	His	Val	Gln	Leu	
				800					805					810	
Met	Glu	Leu	Arg	Ser	Cys	Lys	Gly	Tyr	Lys	Gln	Cys	Asn	Pro	Arg	
				815					820					825	
Thr	Arg	Asn	Met	Asp	Leu	Asp	Gly	Gly	Ser	Tyr	Glu	Gln	Tyr	Arg	
				830					835					840	
Gln	Phe	Gln	Arg	Arg	Lys	Trp	Pro	Glu	Met	Lys	Arg	Pro	Ser	Ser	
				845					850					855	
Lys	Ser	Leu	Gly	Gln	Leu	Trp	Glu	Gly	Trp	Glu	Gly				
				860					865						

<210> 85  
 <211> 19  
 <212> DNA

<213> Artificial Sequence  
 <220>  
 <223> Synthetic oligonucleotide probe  
 <400> 85  
 gaagccggct gtctgaatc 19  
 <210> 86  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> Synthetic oligonucleotide probe  
 <400> 86  
 ggccagctat ctccgcag 18  
 <210> 87  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> Synthetic oligonucleotide probe  
 <400> 87  
 aagggcctgc aagagaag 18  
 <210> 88  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> Synthetic oligonucleotide probe  
 <400> 88  
 cactgggaca actgtggg 18  
 <210> 89  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> Synthetic oligonucleotide probe  
 <400> 89  
 cagaggcaac gtggagag 18  
 <210> 90  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> Synthetic oligonucleotide probe  
 <400> 90  
 aagtattgtc atacagtgtt c 21



<210> 91  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 91  
tagtacttgg gcacgaggtt ggag 24

<210> 92  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 92  
tcataccaac tgctgggtcat tggc 24

<210> 93  
<211> 45  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 93  
ctcaagctgc tggacacgga gcggccggtg aatcggtttc acttg 45

<210> 94  
<211> 971  
<212> DNA  
<213> Homo sapiens

<400> 94  
aacaaagttc agtgactgag agggctgagc ggaggctgct gaaggggaga 50  
aaggagtgag gagctgctgg gcagagaggg actgtccggc tcccagatgc 100  
tgggcctcct ggggagcaca gccctcgtgg gatggatcac aggtgctgct 150  
gtggcggtcc tgctgctgct gctgctgctg gccacctgcc tttccacg 200  
acggcaggac tgtgacgtgg agaggaaccg tacagctgca gggggaaacc 250  
gagtccgccg ggcccagcct tggcccttcc ggcgggcggg ccacctggga 300  
atctttcacc atcacggtca tctggccac gtatctcatg tgccgaatgt 350  
gggcctccac caccaccacc acccccgcca caccctcac cacctccacc 400  
accaccacca cccccaccgc caccatcccc gccacgctcg ctgaggetgc 450  
tgtcgccggt gcctgtggac agcagctgcc cctgccctcc catctgttcc 500  
caggacaagt ggaccccatg tttccatgtg gaaggatgca tctctggggt 550  
gaacgagggg aacaatagac tggggcttgc tccagctgca tttgcatggc 600

atgccccagt gtactatggc agcagagaat ggaggaacac tgggtctgca 650  
 gtgctgaagg gtttggggag tggagagcaa ggtgctctt tcggggctgg 700  
 acagcccgtc ttgtgacagt gactcccagt gagccccaga aatgacaagc 750  
 gtgtcttggc agagccagca cacaagtgga tgtgaagtgc ccgtcttgac 800  
 ctctcatca ggctgctgca ggcctctggc gggcagggca ctgggagagg 850  
 ccctgagaat gtccttttgg tttggagaag gcagtgtgag gctgcacagt 900  
 caattcatcg gtgccttagt ccaagaaaat aaaaaccact aagaagcttt 950  
 aaaaaaaaaa aaaaaaaaaa a 971

<210> 95  
 <211> 115  
 <212> PRT  
 <213> Homo sapiens

<400> 95  
 Met Leu Gly Leu Leu Gly Ser Thr Ala Leu Val Gly Trp Ile Thr  
     1                    5                    10                    15  
 Gly Ala Ala Val Ala Val Leu Leu Leu Leu Leu Leu Ala Thr  
                     20                    25                    30  
 Cys Leu Phe His Gly Arg Gln Asp Cys Asp Val Glu Arg Asn Arg  
                     35                    40                    45  
 Thr Ala Ala Gly Gly Asn Arg Val Arg Arg Ala Gln Pro Trp Pro  
                     50                    55                    60  
 Phe Arg Arg Arg Gly His Leu Gly Ile Phe His His His Arg His  
                     65                    70                    75  
 Pro Gly His Val Ser His Val Pro Asn Val Gly Leu His His His  
                     80                    85                    90  
 His His Pro Arg His Thr Pro His His Leu His His His His His  
                     95                    100                    105  
 Pro His Arg His His Pro Arg His Ala Arg  
                     110                    115

<210> 96  
 <211> 1312  
 <212> DNA  
 <213> Homo sapiens

<400> 96  
 ggcggtgct gagctgcctt gaggtgcagt gttggggatc cagagccatg 50  
 tcggacctgc tactactggg cctgattggg ggcctgactc tcttactgct 100  
 gctgacgctg ctggcctttg ccgggtactc agggctactg gctgggggtg 150  
 aagtgagtgc tgggtcaccc cccatccgca acgtcactgt ggcctacaag 200  
 ttccacatgg ggctctatgg tgagactggg cggcttttca ctgagagctg 250  
 cagcatctct cccaagctcc gctccatcgc tgtctactat gacaaccccc 300

acatggtgcc cccgtgataag tgccgatgtg ccgtgggcag catcctgagt 350  
 gaaggtgagg aatcgccctc cccgtgagctc atcgacctct accagaaatt 400  
 tggcttcaag gtgtttctct tcccggcacc cagccatgtg gtgacagcca 450  
 ccttcccccta caccaccatt ctgtccatct ggctggctac ccgccgtgtc 500  
 catcctgcct tggacaccta catcaaggag cggaagctgt gtgcctatcc 550  
 tcggctggag atctaccagg aagaccagat ccatttcatg tgcccactgg 600  
 cacggcaggg agacttctat gtgcctgaga tgaaggagac agagtggaaa 650  
 tggcgggggc ttgtggaggc cattgacacc caggtggatg gcacaggagc 700  
 tgacacaatg agtgacacga gttctgtaag cttggaagtg agccctggca 750  
 gccgggagac ttcagctgcc aactgtcac ctggggcgag cagccgtggc 800  
 tgggatgacg gtgacacccg cagcgagcac agctacagcg agtcaggatg 850  
 cagcggctcc tcttttgagg agctggactt ggagggcgag gggcccttag 900  
 gggagtcacg gctggaccct gggactgagc ccctggggac taccaagtgg 950  
 ctctgggagc cactgcccc tgagaagggc aaggagtaac ccatggcctg 1000  
 caccctctg cagtgcagtt gctgaggaac tgagcagact ctccagcaga 1050  
 ctctccagcc ctcttctctc ttcctctggg ggaggagggg ttcttgaggg 1100  
 acctgacttc ccctgctcca ggcctcttgc taagccttct cctcactgcc 1150  
 ctttaggctc ccagggccag aggagccagg gactattttc tgcaccagcc 1200  
 cccagggctg ccgccctgt tgtgtctttt tttcagactc acagtggagc 1250  
 ttccaggacc cagaataaag ccaatgattt acttgtttca cctggaaaaa 1300  
 aaaaaaaaaa aa 1312

<210> 97  
 <211> 313  
 <212> PRT  
 <213> Homo sapiens

<400> 97  
 Met Ser Asp Leu Leu Leu Gly Leu Ile Gly Gly Leu Thr Leu  
 1 5 10 15  
 Leu Leu Leu Leu Thr Leu Leu Ala Phe Ala Gly Tyr Ser Gly Leu  
 20 25 30  
 Leu Ala Gly Val Glu Val Ser Ala Gly Ser Pro Pro Ile Arg Asn  
 35 40 45  
 Val Thr Val Ala Tyr Lys Phe His Met Gly Leu Tyr Gly Glu Thr  
 50 55 60  
 Gly Arg Leu Phe Thr Glu Ser Cys Ser Ile Ser Pro Lys Leu Arg  
 65 70 75

Ser	Ile	Ala	Val	Tyr	Asp	Asn	Pro	His	Met	Val	Pro	Pro	Asp	80	85	90
Lys	Cys	Arg	Cys	Ala	Val	Gly	Ser	Ile	Leu	Ser	Glu	Gly	Glu	95	100	105
Ser	Pro	Ser	Pro	Glu	Leu	Ile	Asp	Leu	Tyr	Gln	Lys	Phe	Gly	110	115	120
Lys	Val	Phe	Ser	Phe	Pro	Ala	Pro	Ser	His	Val	Val	Thr	Ala	125	130	135
Phe	Pro	Tyr	Thr	Thr	Ile	Leu	Ser	Ile	Trp	Leu	Ala	Thr	Arg	140	145	150
Val	His	Pro	Ala	Leu	Asp	Thr	Tyr	Ile	Lys	Glu	Arg	Lys	Leu	155	160	165
Ala	Tyr	Pro	Arg	Leu	Glu	Ile	Tyr	Gln	Glu	Asp	Gln	Ile	His	170	175	180
Met	Cys	Pro	Leu	Ala	Arg	Gln	Gly	Asp	Phe	Tyr	Val	Pro	Glu	185	190	195
Lys	Glu	Thr	Glu	Trp	Lys	Trp	Arg	Gly	Leu	Val	Glu	Ala	Ile	200	205	210
Thr	Gln	Val	Asp	Gly	Thr	Gly	Ala	Asp	Thr	Met	Ser	Asp	Thr	215	220	225
Ser	Val	Ser	Leu	Glu	Val	Ser	Pro	Gly	Ser	Arg	Glu	Thr	Ser	230	235	240
Ala	Thr	Leu	Ser	Pro	Gly	Ala	Ser	Ser	Arg	Gly	Trp	Asp	Asp	245	250	255
Asp	Thr	Arg	Ser	Glu	His	Ser	Tyr	Ser	Glu	Ser	Gly	Ala	Ser	260	265	270
Ser	Ser	Phe	Glu	Glu	Leu	Asp	Leu	Glu	Gly	Glu	Gly	Pro	Leu	275	280	285
Glu	Ser	Arg	Leu	Asp	Pro	Gly	Thr	Glu	Pro	Leu	Gly	Thr	Thr	290	295	300
Trp	Leu	Trp	Glu	Pro	Thr	Ala	Pro	Glu	Lys	Gly	Lys	Glu		305	310	

<210> 98

<211> 725

<212> DNA

<213> Homo sapiens

<400> 98

ccgcgggaac gctgtcctgg ctgccgccac ccgaacagcc tgtcctggtg 50

ccccggctcc ctgccccgcy ccagtcattg accctgcgcc cctcactcct 100

cccgtccat ctgctgctgc tgctgctgct cagtgcggcg gtgtgccggg 150

ctgaggctgg gctcgaaacc gaaagtcccg tccggaccct ccaagtggag 200

accctggtgg agccccaga accatgtgcc gagcccgtg cttttggaga 250

cacgcttcac atacactaca cggaagctt gtagatgga cgtattattg 300  
 acacctccct gaccagagac cctctggta tagaacttgg ccaaagcag 350  
 gtgattccag gtctggagca gactcttctc gacatgtgtg tgggagagaa 400  
 gcgaagggca atcattcctt ctacttggc ctatggaaaa cggggatttc 450  
 caccatctgt cccagcggat gcagtgggtc agtatgacgt ggagctgatt 500  
 gcactaatcc gagccaacta ctggctaaag ctggtgaagg gcattttgcc 550  
 tctggtaggg atggccatgg tgccagccct cctgggcctc attgggtatc 600  
 acctatacag aaaggccaat agacccaaag tctccaaaaa gaagctcaag 650  
 gaagagaaac gaaacaagag caaaaagaaa taataaataa taaattttaa 700  
 aaaacttaaa aaaaaaaaaa aaaaa 725

<210> 99

<211> 201

<212> PRT

<213> Homo sapiens

<400> 99

Met	Thr	Leu	Arg	Pro	Ser	Leu	Leu	Pro	Leu	His	Leu	Leu	Leu	Leu	1	5	10	15
Leu	Leu	Leu	Ser	Ala	Ala	Val	Cys	Arg	Ala	Glu	Ala	Gly	Leu	Glu	20	25	30	
Thr	Glu	Ser	Pro	Val	Arg	Thr	Leu	Gln	Val	Glu	Thr	Leu	Val	Glu	35	40	45	
Pro	Pro	Glu	Pro	Cys	Ala	Glu	Pro	Ala	Ala	Phe	Gly	Asp	Thr	Leu	50	55	60	
His	Ile	His	Tyr	Thr	Gly	Ser	Leu	Val	Asp	Gly	Arg	Ile	Ile	Asp	65	70	75	
Thr	Ser	Leu	Thr	Arg	Asp	Pro	Leu	Val	Ile	Glu	Leu	Gly	Gln	Lys	80	85	90	
Gln	Val	Ile	Pro	Gly	Leu	Glu	Gln	Ser	Leu	Leu	Asp	Met	Cys	Val	95	100	105	
Gly	Glu	Lys	Arg	Arg	Ala	Ile	Ile	Pro	Ser	His	Leu	Ala	Tyr	Gly	110	115	120	
Lys	Arg	Gly	Phe	Pro	Pro	Ser	Val	Pro	Ala	Asp	Ala	Val	Val	Gln	125	130	135	
Tyr	Asp	Val	Glu	Leu	Ile	Ala	Leu	Ile	Arg	Ala	Asn	Tyr	Trp	Leu	140	145	150	
Lys	Leu	Val	Lys	Gly	Ile	Leu	Pro	Leu	Val	Gly	Met	Ala	Met	Val	155	160	165	
Pro	Ala	Leu	Leu	Gly	Leu	Ile	Gly	Tyr	His	Leu	Tyr	Arg	Lys	Ala	170	175	180	
Asn	Arg	Pro	Lys	Val	Ser	Lys	Lys	Lys	Leu	Lys	Glu	Glu	Lys	Arg				

Asn Lys Ser Lys Lys Lys  
200

<210> 100  
<211> 705  
<212> DNA  
<213> Homo sapiens

<400> 100  
cccggaacg tgttcctggc tgccgcaccc gaacagcctg tcttggtgcc 50  
ccggctccct gccccgcgcc cagtcacgac cctgcgcccc tcaactcctcc 100  
cgctccatct gctgctgctg ctgctgctca gtgcggcggt gtgccgggct 150  
gaggctgggc tcgaaaccga aagtcctcgc cggaccctcc aagtggagac 200  
cctggtggag cccccagaac catgtgccga gcccgtgct tttggagaca 250  
cgcttcacat aactacacg ggaagcttgg tagatggacg tattattgac 300  
acctccctga ccagagaccc tctggttata gaacttggcc aaaagcaggt 350  
gattccaggt ctggagcaga gtcttctcga catgtgtgtg ggagagaagc 400  
gaagggcaat cattccttct cacttggcct atggaaaacg gggatttcca 450  
ccatctgtcc cagcggatgc agtgggtgag tatgacgtgg agctgattgc 500  
actaatccga gccaaactact ggctaaagct ggtgaagggc attttgcctc 550  
tggtagggat ggccatggtg ccaccctcct gggcctcatt gggtatcacc 600  
tatacagaaa ggccaataga cccaaagtct ccaaaaagaa gctcaaggaa 650  
gagaaacgaa acaagagcaa aaagaaataa taaataataa attttaaaaa 700  
actta 705

<210> 101  
<211> 543  
<212> DNA  
<213> Homo sapiens

<400> 101  
ccgaaagtcc cgtccggacc ctccaagtgg agaccctggt ggagccccca 50  
gaaccatgtg ccgagcccgcc tgcttttggg gacacgcttc acatacacta 100  
cacgggaagc ttggtagatg gacgtattat tgacacctcc ctgaccagag 150  
accctctggt tatagaactt ggccaaaagc aggtgattcc aggtctggag 200  
cagagtcttc tcgacatgtg tgtgggagag aagcgaaggc caatcattcc 250  
ttctcacttg gcctatggaa aacggggatt tccaccatct gtcccagcgg 300  
atgcagtggg gcagtatgac gtggagctga ttgcactaat ccgagccaac 350  
tactggctaa agctggtgaa gggcattttg cctctggtag ggatggccat 400

ggtgccagcc ctcttgggcc tcattgggta tcacctatac agaaaggcca 450  
 atagacccaa agtctccaaa aagaagctca aggaagagaa acgaaacaag 500  
 agcaaaaaga aataataaat aataaatttt aaaaaactta aaa 543

<210> 102  
 <211> 1316  
 <212> DNA  
 <213> Homo sapiens

<400> 102  
 ctgctgcac cgggtgtctg gaggtgtg cggttttgtt ttcttggcta 50  
 aaatcggggg agtgaggcgg gccggcgcgg cgcgacaccg ggctccggaa 100  
 ccactgcacg acggggctgg actgacctga aaaaaatgtc tggattttcta 150  
 gagggcttga gatgctcaga atgcattgac tggggggaaa agcgcaatac 200  
 tattgcttcc attgctgctg gtgtactatt ttttacaggc tgggtggatta 250  
 tcatagatgc agctgttatt tatcccacca tgaaagattt caaccactca 300  
 taccatgcct gtggtgttat agcaaccata gccttcttaa tgattaatgc 350  
 agtatcgaat ggacaagtcc gaggtgatag ttacagtga ggttgtctgg 400  
 gtcaaacagg tgctcgcatt tggcttttgc ttggtttcat gttggccttt 450  
 ggatctctga ttgcatctat gtggattctt tttggagggt atgttgctaa 500  
 agaaaaagac atagtatacc ctggaattgc tgtatttttc cagaatgcct 550  
 tcatcttttt tggagggtcg gtttttaagt ttggcgcac tgaagactta 600  
 tggcagtga caccatctgat ttcccacagc acaacagccc tgcattgggt 650  
 tgtttgtttt tttactgctc actoccaaacc ttttgtaatg ccattttcta 700  
 aacttatttc tgagtgtagt ctacagctta agttgtgtaa tactaaaatc 750  
 acgagaacac ctaaacaaca accaaaaatc tattgtggta tgcacttgat 800  
 taacttataa aatgttagag gaaactttca catgaataat ttttgtcaaa 850  
 ttttatcatg gtataatttg taaaaataaa aagaaattac aaaagaaatt 900  
 atggatttgt caatgtaagt atttgtcata tctgagggtc aaaaccacaa 950  
 tgaaagtgct ctgaagattt aatgtgttta ttcaaagtgt gtctcttctg 1000  
 tgtcaaatgt taaatgaaat ataaacattt tttagttttt aaaatattcc 1050  
 gtggtcaaaa ttcttcctca ctataattgg tattttacttt taccaaaaat 1100  
 tctgtgaaca tgtaatgtaa ctggcttttg aggggtctccc aaggggtgag 1150  
 tggacgtgtt ggaagagaga agcaccatgg tccagccacc aggtccctg 1200  
 tgtcccttcc atgggaaggt cttccgctgt gcctctcatt ccaagggcag 1250  
 gaagatgtga ctacagcatg acacgtgggt ctggtgggat gcacagtcac 1300

tccacatcca ccactg 1316

<210> 103

<211> 157

<212> PRT

<213> Homo sapiens

<400> 103

Met	Ser	Gly	Phe	Leu	Glu	Gly	Leu	Arg	Cys	Ser	Glu	Cys	Ile	Asp
1				5					10					15
Trp	Gly	Glu	Lys	Arg	Asn	Thr	Ile	Ala	Ser	Ile	Ala	Ala	Gly	Val
				20					25					30
Leu	Phe	Phe	Thr	Gly	Trp	Trp	Ile	Ile	Ile	Asp	Ala	Ala	Val	Ile
				35					40					45
Tyr	Pro	Thr	Met	Lys	Asp	Phe	Asn	His	Ser	Tyr	His	Ala	Cys	Gly
				50					55					60
Val	Ile	Ala	Thr	Ile	Ala	Phe	Leu	Met	Ile	Asn	Ala	Val	Ser	Asn
				65					70					75
Gly	Gln	Val	Arg	Gly	Asp	Ser	Tyr	Ser	Glu	Gly	Cys	Leu	Gly	Gln
				80					85					90
Thr	Gly	Ala	Arg	Ile	Trp	Leu	Phe	Val	Gly	Phe	Met	Leu	Ala	Phe
				95					100					105
Gly	Ser	Leu	Ile	Ala	Ser	Met	Trp	Ile	Leu	Phe	Gly	Gly	Tyr	Val
				110					115					120
Ala	Lys	Glu	Lys	Asp	Ile	Val	Tyr	Pro	Gly	Ile	Ala	Val	Phe	Phe
				125					130					135
Gln	Asn	Ala	Phe	Ile	Phe	Phe	Gly	Gly	Leu	Val	Phe	Lys	Phe	Gly
				140					145					150
Arg	Thr	Glu	Asp	Leu	Trp	Gln								
				155										

<210> 104

<211> 545

<212> DNA

<213> Homo sapiens

<400> 104

ttcttggtcta aaatcggggg agtgaggcgg gccggcgcg cgcgacaccg 50  
ggctccggaa ccactgcacg acggggctgg actgacctga aaaaaatgtc 100  
tggatttcta gagggcttga gatgctcaga atgcattgac tggggggaaa 150  
agcgcaatac tattgcttcc attgctgctg gtgtactatt ttttacaggc 200  
tgggtgatta tcatagatgc agctgttatt tatcccacca tgaaagattt 250  
caaccactca taccatgcct gtgggtgttat agcaaccata gccttcctaa 300  
tgattaatgc agtatcgaat ggacaagtcc gaggtgatag ttacagtga 350  
ggttgtctgg gtcaaacagg tgctcgcatt tggcttttcg ttggtttcat 400



gttggccttt ggatctctga ttgcatctat gtggattctt tttggagggt 450  
 atgttgctaa agaaaaagac atagtatacc ctggaattgc tgtatttttc 500  
 cagaatgcct tcatcttttt tggagggctg gtttttaagt ttggc 545

<210> 105  
 <211> 490  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 31, 39, 108, 145, 179, 219, 412, 479  
 <223> unknown base

<400> 105  
 tggacggacc tgaaaaaat gtttggattt ntagagggnt tgagatgttc 50  
 agaatgcatg actgggggaa aagcgcaaact actattgctt ccattgctgc 100  
 tgggtgtaata ttttttacag gctgggtgat tatcatagat gcagntgtta 150  
 tttatccac catgaaagat ttcaaccant cataccatgc ctgtggtgtt 200  
 atagcaacca tagccttctt aatgattaat gcagtatcga atggacaagt 250  
 ccgagggtgat agttacagtg aagggtgttt ggggtcaaaca ggtgctcgca 300  
 tttggctttt cgttggtttc atgttggcct ttggatctct gattgcatct 350  
 atgtggattc tttttggagg ttatgttgct aaagaaaaag acatagtata 400  
 ccctggaatt gntgtatttt tccagaatgc cttcatcttt tttggagggc 450  
 tggtttttaa gtttggccgc actgaagant tatggcagtg 490

<210> 106  
 <211> 466  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 26, 38, 81, 115, 207, 329, 380, 446, 449  
 <223> unknown base

<400> 106  
 ggacaccggg ttccggacca atgcangacg ggggtggantg acctgaaaaa 50  
 aatgtttgga ttttttagagg gcttgagatg ntcagaatgc attgactggg 100  
 ggaaaagcgc aatantattg ctttccattg ctgctggtgt actatttttt 150  
 acaggggtgg ggattatcat agatgcagct gttatttatc ccaccatgaa 200  
 agatttnaac cactcatacc atgcctgtgg tgttatagca accatagcct 250  
 tcctaataat taatgcagta tcgaatggac aagtccgagg tgatagttac 300  
 agtgaagggt gtttgggtca aacaggtgnt cgcatttggc ttttcgttgg 350  
 tttcatgttg gcctttggat ttctgattgn attctatgcg gattcttctt 400

ggaggttatg ttgctaaaga aaaagacata gtataccctg gaattncnt 450  
atttttccag aatgcc 466

<210> 107  
<211> 377  
<212> DNA  
<213> Homo sapiens  
  
<220>  
<221> unsure  
<222> 52, 67, 70, 78, 105, 144, 150, 209, 266, 268, 282, 310, 331, 356  
<223> unknown base

<400> 107  
tagagggctt gagatgctca gaatgcattg actgggggga aaagcgcaat 50  
antattgctt ccattgntgn tgggtgnta tttttttaca ggctggtgga 100  
ttatnataga tgcagctgtt atttatccca ccatgaaaga tttnaaccan 150  
tcataccatg cctgtggtgt tatagcaacc atagccttcc taatgattaa 200  
tgcagtatng aatggacaag tccgaggtga tagttacagt gaagggtgtt 250  
tgggtcaaac aggtgntngc atttggcttt tngttggttt catgttggcc 300  
tttgatctn tgattgcatt tatgtggatt ntttttggag gttatgttgc 350  
taaagnaaaa gacatagtat accctgt 377

<210> 108  
<211> 552  
<212> DNA  
<213> Homo sapiens  
  
<220>  
<221> unsure  
<222> 12, 25, 65, 130, 437, 537  
<223> unknown base

<400> 108  
gggaggctgt gnccgttttg tttntttggc taaaatcggg ggagtgaggc 50  
ggcccggcgc ggcngacac cgggttccgg gaaccattgc acgacggggt 100  
ggactgacct gaaaaaatg tttggatttn tagagggctt gagatgctca 150  
gaatgcattg actgggggga aaagcgcaat actattgctt ccattgctgc 200  
tgggtgtacta ttttttacag gctggtggat tatcatagat gcagctgtta 250  
tttatccac catgaaagat ttcaaccact cataccatgc ctgtggtgtt 300  
atagcaacca tagccttcct aatgattaat gcagtatcga atggacaagt 350  
ccgaggtgat agttacagtg aagggtgtct gggtaaaca ggtgctcgca 400  
tttggtttt cgttggtttc atgttgccct ttggatntct gattgcatct 450  
atgtggattc tttttggagg ttatgttgct aaagaaaaag acatagtata 500  
ccctggaatt gctgtatttt tccagaatgc cttcatnttt tttggagggc 550

tg 552

<210> 109  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 109  
gggtggatgg tactgctgca tcc 23

<210> 110  
<211> 26  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 110  
tgttgtgctg tgggaaatca gatgtg 26

<210> 111  
<211> 46  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 111  
gtgtctggag gctgtggccg ttttgttttc ttgggctaaa atcggg 46

<210> 112  
<211> 3004  
<212> DNA  
<213> Homo sapiens

<400> 112  
cgacgccggc gtgatgtggc ttccgctggg gctgctcctg gctgtgctgc 50  
tgctggccgt cctctgcaaa gtttacttgg gactattctc tggcagctcc 100  
ccgaatcctt tctccgaaga tgtcaaacgg cccccagcgc ccctggtaac 150  
tgacaaggag gccaggaaga aggttctcaa acaagctttt tcagccaacc 200  
aagtgccgga gaagctggat gtggtggtaa ttggcagtgg ctttgggggc 250  
ctggctgcag ctgcaattct agctaaagct ggcaagcgag tcctggtgct 300  
ggaacaacat accaaggcag ggggctgctg tcataccttt ggaaagaatg 350  
gccttgaatt tgacacagga atccattaca ttgggcgtat ggaagagggc 400  
agcattggcc gttttatctt ggaccagatc actgaagggc agctggactg 450  
ggctcccctg tctctcctt ttgacatcat ggtactggaa gggcccaatg 500  
gccgaaagga gtaccccatg tacagtggag agaaagccta cattcagggc 550

ctcaaggaga agtttccaca ggaggaagct atcattgaca agtatataaa 600  
 gctgggttaag gtggtatcca gtggagcccc tcatgccatc ctggtgaaat 650  
 tcctcccatt gcccggtggtt cagctcctcg acaggtgtgg gctgctgact 700  
 cgtttctctc cattccttca agcatccacc cagagcctgg ctgaggtcct 750  
 gcagcagctg ggggcctcct ctgagctcca ggcagtactc agctacatct 800  
 tccccactta cgggtgtcacc cccaaccaca gtgccttttc catgcacgcc 850  
 ctgctgggtca accactacat gaaaggaggc ttttatcccc gaggggggttc 900  
 cagtgaaatt gccttccaca ccatccctgt gattcagcgg gctggggggcg 950  
 ctgtcctcac aaaggccact gtgcagagtg tgttgtgtga ctgagctggg 1000  
 aaagcctgtg gtgtcagtgt gaagaagggg catgagctgg tgaacatcta 1050  
 ttgccccatc gtggtctcca acgcaggact gttcaacacc tatgaacacc 1100  
 tactgccggg gaacgcccg tgcctgccag gtgtgaagca gcaactgggg 1150  
 acggtgcggc ccggcttagg catgacctct gttttcatct gcctgcgagg 1200  
 caccaaggaa gacctgcac tgcctccac caactactat gtttactatg 1250  
 acacggacat ggaccaggcg atggagcgt acgtctccat gccagggaa 1300  
 gaggtgcgg aacacatccc tcttctcttc ttogctttcc catcagccaa 1350  
 agatccgacc tgggaggacc gattcccagg ccggtccacc atgatcatgc 1400  
 tcatacccac tgcctacgag tggtttgagg agtggcaggc ggagctgaag 1450  
 ggaaagcggg gcagtgacta tgagaccttc aaaaactcct ttgtggaagc 1500  
 ctctatgtca gtggtcctga aactgttccc acagctggag gggaaggtgg 1550  
 agagtgtgac tgcaggatcc ccactcacca accagttcta tctggctgct 1600  
 ccccgagggtg cctgctacgg ggctgaccat gacctgggcc gcctgcaccc 1650  
 ttgtgtgatg gcctccttga gggcccagag ccccatcccc aacctctatc 1700  
 tgacaggcca ggatatcttc acctgtggac tggtcggggc cctgcaaggt 1750  
 gccctgctgt gcagcagcgc catcctgaag cggaaactgt actcagacct 1800  
 taagaatctt gattctagga tccgggcaca gaagaaaaag aattagttcc 1850  
 atcaggagg agtcagagga atttgccc aa tggctggggc atctcccttg 1900  
 acttaccat aatgtctttc tgcattagtt ccttgcacgt ataaagcact 1950  
 ctaatttggg tctgatgcct gaagagaggc ctagttttaa tcacaattcc 2000  
 gaatctgggg caatggaatc actgcttcca gctggggcag gtgagatctt 2050  
 tacgcctttt ataacatgcc atccctacta ataggatatt gacttggata 2100  
 gcttgatgtc tcatgaogag cggcgctctg catccctcac ccatgcctcc 2150

taactcagtg atcaaagcga atattccatc tgtggataga acccctggca 2200  
 gtgttgtcag ctcaacctgg tgggttcagt tctgtcctga ggcttctgct 2250  
 ctcatccatt tagtgctacg ctgcacagtt ctacactgtc aagggaaaag 2300  
 ggagactaat gaggcttaac tcaaaacctg ggcgtgggtt tggttgccat 2350  
 tccatagggtt tggagagctc tagatctctt ttgtgctggg ttcagtggct 2400  
 cttcagggga caggaaatgc ctgtgtctgg ccagtgtggt totggagctt 2450  
 tggggtaaca gcaggatcca tcagttagta ggggtgatgt cagatgatca 2500  
 tatccaattc atatggaagt cccgggtctg tottcccttat catcggggtg 2550  
 gcagctgggt ctcaatgtgc cagcagggac tcagtacctg agcctcaatc 2600  
 aagccttata caccaaatac acagggaagg gtgatgcagg gaagggtgac 2650  
 atcaggagtc agggcatgga ctggtaagat gaatactttg ctgggctgaa 2700  
 gcaggctgca gggcattcca gccaaaggga cagcagggga cagtgcaggg 2750  
 aggtgtgggg taaggaggag aagtcacatc agaaaaggga aagccacgga 2800  
 atgtgtgtga agcccagaaa tggcatttgc agttaattag cacatgtgag 2850  
 ggtagacag gtaggtgaat gcaagctcaa ggtttgaaa aatgactttt 2900  
 cagttatgtc tttggtatca gacatacgaa aggtctcttt gtagttcgtg 2950  
 ttaatgtaac attaataaat ttattgattc cattgcttta aaaaaaaaaa 3000  
 aaaa 3004

<210> 113  
 <211> 610  
 <212> PRT  
 <213> Homo sapiens

<400> 113  
 Met Trp Leu Pro Leu Val Leu Leu Leu Ala Val Leu Leu Leu Ala  
 1 5 10 15  
 Val Leu Cys Lys Val Tyr Leu Gly Leu Phe Ser Gly Ser Ser Pro  
 20 25 30  
 Asn Pro Phe Ser Glu Asp Val Lys Arg Pro Pro Ala Pro Leu Val  
 35 40 45  
 Thr Asp Lys Glu Ala Arg Lys Lys Val Leu Lys Gln Ala Phe Ser  
 50 55 60  
 Ala Asn Gln Val Pro Glu Lys Leu Asp Val Val Val Ile Gly Ser  
 65 70 75  
 Gly Phe Gly Gly Leu Ala Ala Ala Ala Ile Leu Ala Lys Ala Gly  
 80 85 90  
 Lys Arg Val Leu Val Leu Glu Gln His Thr Lys Ala Gly Gly Cys  
 95 100 105

Cys	His	Thr	Phe	Gly	Lys	Asn	Gly	Leu	Glu	Phe	Asp	Thr	Gly	Ile	110	115	120
His	Tyr	Ile	Gly	Arg	Met	Glu	Glu	Gly	Ser	Ile	Gly	Arg	Phe	Ile	125	130	135
Leu	Asp	Gln	Ile	Thr	Glu	Gly	Gln	Leu	Asp	Trp	Ala	Pro	Leu	Ser	140	145	150
Ser	Pro	Phe	Asp	Ile	Met	Val	Leu	Glu	Gly	Pro	Asn	Gly	Arg	Lys	155	160	165
Glu	Tyr	Pro	Met	Tyr	Ser	Gly	Glu	Lys	Ala	Tyr	Ile	Gln	Gly	Leu	170	175	180
Lys	Glu	Lys	Phe	Pro	Gln	Glu	Glu	Ala	Ile	Ile	Asp	Lys	Tyr	Ile	185	190	195
Lys	Leu	Val	Lys	Val	Val	Ser	Ser	Gly	Ala	Pro	His	Ala	Ile	Leu	200	205	210
Leu	Lys	Phe	Leu	Pro	Leu	Pro	Val	Val	Gln	Leu	Leu	Asp	Arg	Cys	215	220	225
Gly	Leu	Leu	Thr	Arg	Phe	Ser	Pro	Phe	Leu	Gln	Ala	Ser	Thr	Gln	230	235	240
Ser	Leu	Ala	Glu	Val	Leu	Gln	Gln	Leu	Gly	Ala	Ser	Ser	Glu	Leu	245	250	255
Gln	Ala	Val	Leu	Ser	Tyr	Ile	Phe	Pro	Thr	Tyr	Gly	Val	Thr	Pro	260	265	270
Asn	His	Ser	Ala	Phe	Ser	Met	His	Ala	Leu	Leu	Val	Asn	His	Tyr	275	280	285
Met	Lys	Gly	Gly	Phe	Tyr	Pro	Arg	Gly	Gly	Ser	Ser	Glu	Ile	Ala	290	295	300
Phe	His	Thr	Ile	Pro	Val	Ile	Gln	Arg	Ala	Gly	Gly	Ala	Val	Leu	305	310	315
Thr	Lys	Ala	Thr	Val	Gln	Ser	Val	Leu	Leu	Asp	Ser	Ala	Gly	Lys	320	325	330
Ala	Cys	Gly	Val	Ser	Val	Lys	Lys	Gly	His	Glu	Leu	Val	Asn	Ile	335	340	345
Tyr	Cys	Pro	Ile	Val	Val	Ser	Asn	Ala	Gly	Leu	Phe	Asn	Thr	Tyr	350	355	360
Glu	His	Leu	Leu	Pro	Gly	Asn	Ala	Arg	Cys	Leu	Pro	Gly	Val	Lys	365	370	375
Gln	Gln	Leu	Gly	Thr	Val	Arg	Pro	Gly	Leu	Gly	Met	Thr	Ser	Val	380	385	390
Phe	Ile	Cys	Leu	Arg	Gly	Thr	Lys	Glu	Asp	Leu	His	Leu	Pro	Ser	395	400	405
Thr	Asn	Tyr	Tyr	Val	Tyr	Tyr	Asp	Thr	Asp	Met	Asp	Gln	Ala	Met	410	415	420

Glu Arg Tyr Val	Ser Met Pro Arg Glu	Glu Ala Ala Glu His Ile	425	430	435
Pro Leu Leu Phe	Phe Ala Phe Pro Ser	Ala Lys Asp Pro Thr Trp	440	445	450
Glu Asp Arg Phe	Pro Gly Arg Ser Thr	Met Ile Met Leu Ile Pro	455	460	465
Thr Ala Tyr Glu	Trp Phe Glu Glu Trp	Gln Ala Glu Leu Lys Gly	470	475	480
Lys Arg Gly Ser	Asp Tyr Glu Thr Phe	Lys Asn Ser Phe Val Glu	485	490	495
Ala Ser Met Ser	Val Val Leu Lys Leu	Phe Pro Gln Leu Glu Gly	500	505	510
Lys Val Glu Ser	Val Thr Ala Gly Ser	Pro Leu Thr Asn Gln Phe	515	520	525
Tyr Leu Ala Ala	Pro Arg Gly Ala Cys	Tyr Gly Ala Asp His Asp	530	535	540
Leu Gly Arg Leu	His Pro Cys Val Met	Ala Ser Leu Arg Ala Gln	545	550	555
Ser Pro Ile Pro	Asn Leu Tyr Leu Thr	Gly Gln Asp Ile Phe Thr	560	565	570
Cys Gly Leu Val	Gly Ala Leu Gln Gly	Ala Leu Leu Cys Ser Ser	575	580	585
Ala Ile Leu Lys	Arg Asn Leu Tyr Ser	Asp Leu Lys Asn Leu Asp	590	595	600
Ser Arg Ile Arg	Ala Gln Lys Lys Lys	Asn	605	610	

<210> 114  
 <211> 1701  
 <212> DNA  
 <213> Homo sapiens

<400> 114  
 gcagcggcga ggcggcggtg gtggctgagt ccgtggtggc agaggcgaag 50  
 gcgacagctc taggggttgg caccggcccc gagaggagga tgcgggtccg 100  
 gatagggctg acgctgctgc tgtgtgcggt gctgctgagc ttggcctcgg 150  
 cgtcctcggg tgaagaaggc agccaggatg aatccttaga ttccaagact 200  
 actttgacat cagatgagtc agtaaaggac catactactg caggcagagt 250  
 agttgctggt caaatatttc ttgattcaga agaatctgaa ttagaatcct 300  
 ctattcaaga agaggaagac agcctcaaga gccaaagagg ggaaagtgtc 350  
 acagaagata tcagctttct agagtctcca aatccagaaa acaaggacta 400  
 tgaagagcca aagaaagtac ggaaaccagc ttgaccgcc attgaaggca 450

cagcacatgg ggagccctgc cacttccctt ttcttttctt agataaggag 500  
tatgatgaat gtacatcaga tgggagggaa gatggcagac tgtggtgtgc 550  
tacaacctat gactacaaag cagatgaaaa gtggggcctt tgtgaaactg 600  
aagaagaggc tgctaagaga cggcagatgc aggaagcaga aatgatgtat 650  
caaaactggaa tgaaaatcct taatggaagc aataagaaaa gccaaaaaag 700  
agaagcatat cggtatctcc aaaaggcagc aagcatgaac cataccaaag 750  
ccctggagag agtgtcatat gctcttttat ttggtgatta cttgccacag 800  
aatatccagg cagcgagaga gatgtttgag aagctgactg aggaaggctc 850  
tcccaaggga cagactgctc ttggccttct gtatgcctct ggacttggtg 900  
ttaattcaag tcaggcaaag gctcttgtat attatacatt tggagctctt 950  
gggggcaatc taatagccca catggttttg gtaagtagac tttagtggaa 1000  
ggctaataat attaacatca gaagaatttg tggtttatag cggccacaac 1050  
tttttcagct ttcgatgcc agatttgctt gtattaagac caaatattca 1100  
gttgaacttc cttcaaattc ttgttaatgg atataacaca tggaatctac 1150  
atgtaaataa aagttggtgg agtccacaat tttcttttaa aatgattagt 1200  
ttggctgatt gccctaaaa agagagatct gataaatggc tcttttttaa 1250  
ttttctctga gttggaattg tcagaatcat tttttacatt agattatcat 1300  
aattttaaaa atttttcttt agtttttcaa aattttgtaa atgggtggcta 1350  
tagaaaaaca acatgaaata ttatacaata ttttgcaaca atgccctaag 1400  
aattgttaaa attcatggag ttatttgtgc agaagactc cagagagctc 1450  
tactttctgt tttttacttt tcatgattgg ctgtcttccc atttattctg 1500  
gtcatttatt gctagtgaca ctgtgcctgc ttccagtagt ctcattttcc 1550  
ctattttgct aatttggtac tttttctttg ctaatttgga agattaactc 1600  
atttttaata aaattatgtc taagattaaa aaaaaaaaaa aaaaaaaaaa 1650  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1700  
a 1701

<210> 115  
<211> 301  
<212> PRT  
<213> Homo sapiens

<400> 115  
Met Arg Val Arg Ile Gly Leu Thr Leu Leu Leu Cys Ala Val Leu  
1 5 10 15  
Leu Ser Leu Ala Ser Ala Ser Ser Asp Glu Glu Gly Ser Gln Asp  
20 25 30



Glu	Ser	Leu	Asp	Ser	Lys	Thr	Thr	Leu	Thr	Ser	Asp	Glu	Ser	Val	35	40	45
Lys	Asp	His	Thr	Thr	Ala	Gly	Arg	Val	Val	Ala	Gly	Gln	Ile	Phe	50	55	60
Leu	Asp	Ser	Glu	Glu	Ser	Glu	Leu	Glu	Ser	Ser	Ile	Gln	Glu	Glu	65	70	75
Glu	Asp	Ser	Leu	Lys	Ser	Gln	Glu	Gly	Glu	Ser	Val	Thr	Glu	Asp	80	85	90
Ile	Ser	Phe	Leu	Glu	Ser	Pro	Asn	Pro	Glu	Asn	Lys	Asp	Tyr	Glu	95	100	105
Glu	Pro	Lys	Lys	Val	Arg	Lys	Pro	Ala	Leu	Thr	Ala	Ile	Glu	Gly	110	115	120
Thr	Ala	His	Gly	Glu	Pro	Cys	His	Phe	Pro	Phe	Leu	Phe	Leu	Asp	125	130	135
Lys	Glu	Tyr	Asp	Glu	Cys	Thr	Ser	Asp	Gly	Arg	Glu	Asp	Gly	Arg	140	145	150
Leu	Trp	Cys	Ala	Thr	Thr	Tyr	Asp	Tyr	Lys	Ala	Asp	Glu	Lys	Trp	155	160	165
Gly	Phe	Cys	Glu	Thr	Glu	Glu	Glu	Ala	Ala	Lys	Arg	Arg	Gln	Met	170	175	180
Gln	Glu	Ala	Glu	Met	Met	Tyr	Gln	Thr	Gly	Met	Lys	Ile	Leu	Asn	185	190	195
Gly	Ser	Asn	Lys	Lys	Ser	Gln	Lys	Arg	Glu	Ala	Tyr	Arg	Tyr	Leu	200	205	210
Gln	Lys	Ala	Ala	Ser	Met	Asn	His	Thr	Lys	Ala	Leu	Glu	Arg	Val	215	220	225
Ser	Tyr	Ala	Leu	Leu	Phe	Gly	Asp	Tyr	Leu	Pro	Gln	Asn	Ile	Gln	230	235	240
Ala	Ala	Arg	Glu	Met	Phe	Glu	Lys	Leu	Thr	Glu	Glu	Gly	Ser	Pro	245	250	255
Lys	Gly	Gln	Thr	Ala	Leu	Gly	Phe	Leu	Tyr	Ala	Ser	Gly	Leu	Gly	260	265	270
Val	Asn	Ser	Ser	Gln	Ala	Lys	Ala	Leu	Val	Tyr	Tyr	Thr	Phe	Gly	275	280	285
Ala	Leu	Gly	Gly	Asn	Leu	Ile	Ala	His	Met	Val	Leu	Val	Ser	Arg	290	295	300

Leu

<210> 116  
 <211> 584  
 <212> DNA  
 <213> Homo sapiens  
 <400> 116

cttcccagcc ctgtgcccc aagcacctgg agcatatagc cttgcagaac 50  
 ttctacttgc ctgcctccct gcctctggcc atggcctgcc ggtgcctcag 100  
 cttccttctg atggggacct tcctgtcagt ttcccagaca gtccctggccc 150  
 agctggatgc actgctggtc ttcccaggcc aagtggctca actctcctgc 200  
 acgctcagcc cccagcacgt caccatcagg gactacgggtg tgtcctggta 250  
 ccagcagcgg gcaggcagtg ccctcgcata tctcctctac taccgctcgg 300  
 aggaggatca ccaccggcct gctgacatcc ccgatcgatt ctgggcagcc 350  
 aaggatgagg cccacaatgc ctgtgtcctc accattagtc ccgtgcagcc 400  
 tgaagacgac gcggattact actgctctgt tggtacggc tttagtcctt 450  
 aggggtgggg tgtgagatgg gtgcctcccc tctgcctccc atttctgccc 500  
 ctgaccttgg gtccctttta aactttctct gagccttgc tcccctctgt 550  
 aaaatgggtt aataatattc aacatgtcaa caac 584

<210> 117  
 <211> 123  
 <212> PRT  
 <213> Homo sapiens

<400> 117  
 Met Ala Cys Arg Cys Leu Ser Phe Leu Leu Met Gly Thr Phe Leu  
 1 5 10 15  
 Ser Val Ser Gln Thr Val Leu Ala Gln Leu Asp Ala Leu Leu Val  
 20 25 30  
 Phe Pro Gly Gln Val Ala Gln Leu Ser Cys Thr Leu Ser Pro Gln  
 35 40 45  
 His Val Thr Ile Arg Asp Tyr Gly Val Ser Trp Tyr Gln Gln Arg  
 50 55 60  
 Ala Gly Ser Ala Pro Arg Tyr Leu Leu Tyr Tyr Arg Ser Glu Glu  
 65 70 75  
 Asp His His Arg Pro Ala Asp Ile Pro Asp Arg Phe Ser Ala Ala  
 80 85 90  
 Lys Asp Glu Ala His Asn Ala Cys Val Leu Thr Ile Ser Pro Val  
 95 100 105  
 Gln Pro Glu Asp Asp Ala Asp Tyr Tyr Cys Ser Val Gly Tyr Gly  
 110 115 120  
 Phe Ser Pro

<210> 118  
 <211> 3402  
 <212> DNA  
 <213> Homo sapiens  
 <400> 118

gccgccccgc cccgagaccg ggccccgggg cgcgggggcg cgggatgcgg 50  
 cggccggggc ggcgatgacc gcggagcgca cgccgcgggc ccggccctga 100  
 ccccgccgcc cgcccgctga gccccccgcc gaggtccgga caggccgaga 150  
 tgacgccgag cccctgttg ctgctcctgc tgccgcgct getgctggg 200  
 gccttccac cggccggcg cggccgaggc ccccaaaga tggcggaaca 250  
 ggtggtccca cggcaggtgg cccggtggg ccgcactgtg cggctgcagt 300  
 gcccagtga gggggaccgc ccgccgctga ccatgtggac caaggatggc 350  
 cgcaccatcc acagcggctg gagccgcttc cgctgtctgc cgcaggggct 400  
 gaaggtgaag caggtggagc gggaggatgc cggcgtgtac gtgtgcaagg 450  
 ccaccaacgg ctgcggcagc ctgagcgtca actacaccct cgctgtgtg 500  
 gatgacatta gcccaggga ggagagcctg gggcccgaca gctcctctgg 550  
 ggggtcaagag gaccccgcca gcccagcagt ggcacgaccg cgcttcacac 600  
 agccctccaa gatgaggcgc cgggtgatcg cacggcccggt gggtagctcc 650  
 gtgcggctca agtgctggc cagcgggcac cctcgcccg acatcacgtg 700  
 gatgaaggac gaccaggcct tgacgcgccc agaggccgct gagccagga 750  
 agaagaagtg gacactgagc ctgaagaacc tgcggccgga ggacagcggc 800  
 aaatacacct gccgcgtgtc gaaccgcgcg ggcgccatca acgccaccta 850  
 caaggtggat gtgatccagc ggaccgctc caagcccgct ctcacaggca 900  
 cgcaccccggt gaacacgacg gtggacttcg gggggaccac gtccttcag 950  
 tgcaaggtgc gcagcgacgt gaagccggtg atccagtggc tgaagcgcgt 1000  
 ggagtacggc gccgagggcc gccacaactc caccatcgat gtgggcggcc 1050  
 agaagtttgt ggtgctgccc acgggtgacg tgtggtcgcg gcccgacggc 1100  
 tcctacctca ataagctgct catcacccgt gcccgccagg acgatgcggg 1150  
 catgtacatc tgccttggcg ccaacaccat gggctacagc ttccgcagcg 1200  
 ccttcctcac cgtgctgcca gacccaaaac cgccagggcc acctgtggcc 1250  
 tcctcgtcct cggccactag cctgcccgtg ccggtggtca toggcatccc 1300  
 agccggcgct gtcttcatcc tgggcaccct gctcctgtgg ctttgccagg 1350  
 cccagaagaa gccgtgcacc cccgcgcctg cccctcccct gcctgggcac 1400  
 cggccgcccg ggacggcccg cgaccgcagc ggagacaagg accttcctc 1450  
 gttggccgcc ctacgcgctg gccctggtgt ggggctgtgt gaggagcatg 1500  
 ggtctccggc agccccccag cacttactgg gcccaggccc agttgctggc 1550  
 cctaagttgt accccaaact ctacacagac atccacacac acacacacac 1600

acactctcac acacactcac acgtggaggg caaggtccac cagcacatcc 1650  
 actatcagtg ctagacggca ccgtatctgc agtgggcacg ggggggcccg 1700  
 ccagacaggg agactgggag gatggaggac ggagctgcag acgaaggcag 1750  
 gggacccatg gcgaggagga atggccagca ccccaggcag tctgtgtgtg 1800  
 aggcatagcc cctggacaca cacacacaga cacacacact acctggatgc 1850  
 atgtatgcac acacatgcgc gcacacgtgc tccctgaagg cacacgtacg 1900  
 cacacgcaca tgcacagata tgccgcctgg gcacacagat aagctgccc 1950  
 aatgcacgca cagcacaga gacatgccag aacatacaag gacatgctgc 2000  
 ctgaacatac acacgcacac ccatgcgcag atgtgctgcc tggacacaca 2050  
 cacacacacg gatatgctgt ctggacgcac acacgtgcag atatggtatc 2100  
 cggacacaca cgtgcacaga tatgctgcct ggacacacag ataatgctgc 2150  
 cttgacacac acatgcacgg atattgcctg gacacacaca cacacacacg 2200  
 cgtgcacaga tatgctgtct ggacacgcac acacatgcag atatgctgcc 2250  
 tggacacaca cttccagaca cacgtgcaca ggcgcagata tgctgcctgg 2300  
 acacacgcag atatgctgtc tagtcacaca cacacgcaga catgctgtcc 2350  
 ggacacacac acgcatgcac agatatgctg tccggacaca cacacgcacg 2400  
 cagatatgct gcctggacac acacacagat aatgctgcct caacactcac 2450  
 acacgtgcag atattgcctg gacacacaca tgtgcacaga tatgctgtct 2500  
 ggacatgcac acacgtgcag atatgctgtc cggatacaca cgcacgcaca 2550  
 catgcagata tgctgcctgg gcacacactt ccggacacac atgcacacac 2600  
 aggtgcagat atgctgcctg gacacacaca cagataatgc tgctcaaca 2650  
 ctcacacacg tgcagatatt gcctggacac acacatgtgc acagatatgc 2700  
 tgtctggaca tgcacacacg tgcagatatg ctgtccggat acacacgcac 2750  
 gcacacatgc agatatgctg cctgggcaca cacttccgga cacacatgca 2800  
 cacacaggtg cagatatgct gcctggacac acgcagactg acgtgctttt 2850  
 gggaggggtg gccgtgaagc ctgcagtacg tgtgccgtga ggctcatagt 2900  
 tgatgagggg ctttccctgc tccacgtca ccccccaac tctgcccgcc 2950  
 tctgtccccg cctcagtccc cgcctccatc ccgcctctg tcccctggcc 3000  
 ttggcggcta tttttgccac ctgccttggg tgcccaggag tcccctactg 3050  
 ctgtgggctg gggttggggg cacagcagcc ccaagcctga gaggctggag 3100  
 cccatggcta gtggctcatc cccagtgcac tctccccctg acacagagaa 3150  
 ggggccttgg tatttatatt taagaaatga agataatatt aataatgatg 3200

gaaggaagac tgggttgac ggactgtggt ctctcctggg gcccgggacc 3250  
 cgcctggtct ttcagccatg ctgatgacca caccctgtcc aggccagaca 3300  
 ccacccccca cccactgtc gtggtggccc cagatctctg taattttatg 3350  
 tagagtttga gctgaagccc cgtatatatta atttattttg ttaaacacaa 3400  
 aa 3402

<210> 119  
 <211> 504  
 <212> PRT  
 <213> Homo sapiens

<400> 119  
 Met Thr Pro Ser Pro Leu Leu Leu Leu Leu Leu Pro Pro Leu Leu  
 1 5 10 15  
 Leu Gly Ala Phe Pro Pro Ala Ala Ala Ala Arg Gly Pro Pro Lys  
 20 25 30  
 Met Ala Asp Lys Val Val Pro Arg Gln Val Ala Arg Leu Gly Arg  
 35 40 45  
 Thr Val Arg Leu Gln Cys Pro Val Glu Gly Asp Pro Pro Pro Leu  
 50 55 60  
 Thr Met Trp Thr Lys Asp Gly Arg Thr Ile His Ser Gly Trp Ser  
 65 70 75  
 Arg Phe Arg Val Leu Pro Gln Gly Leu Lys Val Lys Gln Val Glu  
 80 85 90  
 Arg Glu Asp Ala Gly Val Tyr Val Cys Lys Ala Thr Asn Gly Phe  
 95 100 105  
 Gly Ser Leu Ser Val Asn Tyr Thr Leu Val Val Leu Asp Asp Ile  
 110 115 120  
 Ser Pro Gly Lys Glu Ser Leu Gly Pro Asp Ser Ser Ser Gly Gly  
 125 130 135  
 Gln Glu Asp Pro Ala Ser Gln Gln Trp Ala Arg Pro Arg Phe Thr  
 140 145 150  
 Gln Pro Ser Lys Met Arg Arg Arg Val Ile Ala Arg Pro Val Gly  
 155 160 165  
 Ser Ser Val Arg Leu Lys Cys Val Ala Ser Gly His Pro Arg Pro  
 170 175 180  
 Asp Ile Thr Trp Met Lys Asp Asp Gln Ala Leu Thr Arg Pro Glu  
 185 190 195  
 Ala Ala Glu Pro Arg Lys Lys Lys Trp Thr Leu Ser Leu Lys Asn  
 200 205 210  
 Leu Arg Pro Glu Asp Ser Gly Lys Tyr Thr Cys Arg Val Ser Asn  
 215 220 225  
 Arg Ala Gly Ala Ile Asn Ala Thr Tyr Lys Val Asp Val Ile Gln  
 230 235 240

Arg	Thr	Arg	Ser	Lys	Pro	Val	Leu	Thr	Gly	Thr	His	Pro	Val	Asn
				245					250					255
Thr	Thr	Val	Asp	Phe	Gly	Gly	Thr	Thr	Ser	Phe	Gln	Cys	Lys	Val
				260					265					270
Arg	Ser	Asp	Val	Lys	Pro	Val	Ile	Gln	Trp	Leu	Lys	Arg	Val	Glu
				275					280					285
Tyr	Gly	Ala	Glu	Gly	Arg	His	Asn	Ser	Thr	Ile	Asp	Val	Gly	Gly
				290					295					300
Gln	Lys	Phe	Val	Val	Leu	Pro	Thr	Gly	Asp	Val	Trp	Ser	Arg	Pro
				305					310					315
Asp	Gly	Ser	Tyr	Leu	Asn	Lys	Leu	Leu	Ile	Thr	Arg	Ala	Arg	Gln
				320					325					330
Asp	Asp	Ala	Gly	Met	Tyr	Ile	Cys	Leu	Gly	Ala	Asn	Thr	Met	Gly
				335					340					345
Tyr	Ser	Phe	Arg	Ser	Ala	Phe	Leu	Thr	Val	Leu	Pro	Asp	Pro	Lys
				350					355					360
Pro	Pro	Gly	Pro	Pro	Val	Ala	Ser	Ser	Ser	Ser	Ala	Thr	Ser	Leu
				365					370					375
Pro	Trp	Pro	Val	Val	Ile	Gly	Ile	Pro	Ala	Gly	Ala	Val	Phe	Ile
				380					385					390
Leu	Gly	Thr	Leu	Leu	Leu	Trp	Leu	Cys	Gln	Ala	Gln	Lys	Lys	Pro
				395					400					405
Cys	Thr	Pro	Ala	Pro	Ala	Pro	Pro	Leu	Pro	Gly	His	Arg	Pro	Pro
				410					415					420
Gly	Thr	Ala	Arg	Asp	Arg	Ser	Gly	Asp	Lys	Asp	Leu	Pro	Ser	Leu
				425					430					435
Ala	Ala	Leu	Ser	Ala	Gly	Pro	Gly	Val	Gly	Leu	Cys	Glu	Glu	His
				440					445					450
Gly	Ser	Pro	Ala	Ala	Pro	Gln	His	Leu	Leu	Gly	Pro	Gly	Pro	Val
				455					460					465
Ala	Gly	Pro	Lys	Leu	Tyr	Pro	Lys	Leu	Tyr	Thr	Asp	Ile	His	Thr
				470					475					480
His	Thr	His	Thr	His	Ser	His	Thr	His	Ser	His	Val	Glu	Gly	Lys
				485					490					495
Val	His	Gln	His	Ile	His	Tyr	Gln	Cys						
				500										

<210> 120

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 120

cgagatgacg ccgagccccc 20

<210> 121

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 121

cggttcgaca cgcggcaggt g 21

<210> 122

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 122

tgctgctcct gctgccgccg ctgctgctgg gggccttccc gccgg 45

<210> 123

<211> 4420

<212> DNA

<213> Homo sapiens

<400> 123

cccagctgag gagccctgct caagacacgg tcaactggatc tgagaaactt 50

cccaggggac cgcattccag agtcagtgac tctgtgaagc acccacatct 100

acctcttgcc acgttccac gggcttgggg gaaagatggt ggggaccaag 150

gcctgggtgt tctccttccct ggtcctggaa gtcacatctg tgttggggag 200

acagacgatg ctcacccagt cagtaagaag agtcacgcct gggaagaaga 250

acccagcat ctttgccaag cctgccgaca ccctggagag ccctggtgag 300

tggacaacat ggttcaacat cgactaccca ggcgggaagg gcgactatga 350

gcggctggac gccattcgct tctactatgg ggaccgtgta tgtgcccgtc 400

ccctgcggct agaggctcgg accactgact ggacacctgc gggcagcact 450

ggccaggtgg tccatggtag tcccogtgag ggtttctggt gcctcaacag 500

ggagcagcgg cctggccaga actgctctaa ttacaccgta cgcttcctct 550

gccaccagg atccctgcgc cgagacacag agcgcatctg gagcccatgg 600

tctccctgga gcaagtgtc agctgcctgt ggtcagactg gggccagac 650

tcgcacacgc atttgcttgg cagagatggt gtcgctgtgc agtgaggcca 700

gcgaagaggg tcagcactgc atgggccagg actgtacagc ctgtgacctg 750

acctgcccaa tgggccaggt gaatgctgac tgtgatgcct gcatgtgcc 800

ggacttcatg cttcatgggg ctgtctccct tcccgaggt gcccagcct 850

caggggctgc tatctacctc ctgaccaaga cgccgaagct gctgacccag 900  
acagacagtg atgggagatt ccgaatccct ggcttgtgcc ctgatggcaa 950  
aagcatcctg aagatcacaa aggtcaagtt tgccccatt gtactcacaa 1000  
tgcccaagac tagcctgaag gcagccacca tcaaggcaga gtttgtgagg 1050  
gcagagactc catacatggt gatgaaccct gagacaaaag cacggagagc 1100  
tgggcagagc gtgtctctgt gctgtaaggc cacagggaag cccaggccag 1150  
acaagtattt ttggtatcat aatgacacat tgctggatcc ttccctctac 1200  
aagcatgaga gcaagctggt gctgaggaaa ctgcagcagc accaggctgg 1250  
ggagtacttt tgcaaggccc agagtgatgc tggggctgtg aagtccaagg 1300  
ttgccagct gattgtcaca gcatctgatg agactccttg caaccagtt 1350  
cctgagagct atcttatccg gctgccccat gattgctttc agaatgccac 1400  
caactccttc tactatgacg tgggacgctg ccctgttaag acttgtgcag 1450  
ggcagcagga taatgggatc aggtgocgtg atgctgtgca gaactgctgt 1500  
ggcatctcca agacagagga aaggagatc cagtgcagtg gctacacgct 1550  
accaccaag gtggccaagg agtgcagctg ccagcgggtg acggaaactc 1600  
ggagcatcgt gcggggccgt gtcagtgtg ctgacaatgg ggagcccatg 1650  
cgctttggcc atgtgtacat ggggaacagc cgtgtaagca tgactggcta 1700  
caagggcact ttcaccctcc atgtcccca ggacactgag aggctggtgc 1750  
tcacatttgt ggacaggctg cagaagtttg tcaacaccac caaagtgcta 1800  
cctttcaaca agaaggggag tgccgtgttc catgaaatca agatgcttcg 1850  
tcggaaagag cccatcactt tggaagccat ggagaccaac atcatcccc 1900  
tgggggaagt ggttggtgaa gaccccatgg ctgaactgga gattccatcc 1950  
aggagtttct acaggcagaa tggggagccc tacataggaa aagtgaaggc 2000  
cagtgtgacc ttcttgatc cccggaatat ttccacagcc acagctgcc 2050  
agactgacct gaacttcac aatgacgaag gagacacttt ccccttcgg 2100  
acgtatggca tgttctctgt ggacttcaga gatgaggta cctcagagcc 2150  
acttaatgct ggcaaagtga aggtccacct tgactcgacc caggtcaaga 2200  
tgccagagca catatccaca gtgaaactct ggtcactcaa tccagacaca 2250  
gggctgtggg aggaggaagg tgatttcaaa ttgaaaatc aaaggaggaa 2300  
caaaagagaa gacagaacct tcttggtggg caacctggag attcgtgaga 2350  
ggaggctctt taacctggat gttcctgaaa gcaggcgggtg ctttgtaag 2400  
gtgagggcct accggagtga gaggttcttg cctagtgagc agatccaggg 2450



ggttgtgata tccgtgatta acctggagcc tagaactggc ttcttgtcca 2500  
 accctagggc ctggggccgc tttagacagtg tcatcacagg ccccaacggg 2550  
 gcctgtgtgc ctgccttctg tgatgaaccag tccctgatg cctactctgc 2600  
 ctatgtcttg gcaagcctgg ctggggagga actgcaagca gtggagtctt 2650  
 ctctaaatt caacccaaat gcaattggcg tccctcagcc ctatctcaac 2700  
 aagctcaact accgtcggac ggaccatgag gatccacggg ttaaaaagac 2750  
 agctttccag attagcatgg ccaagccaag gcccaactca gctgaggaga 2800  
 gcaatgggcc catctatgcc tttagaacc tccgggcatg tgaagaggca 2850  
 ccaccagtg cagcccactt ccggtttac cagattgagg gggatcgata 2900  
 tgactacaac acagtcccct tcaacgaaga tgaccctatg agctggactg 2950  
 aagactatct ggcatggtgg ccaaagccga tgggaattcag ggctgctat 3000  
 atcaagggtga agattgtggg gccactggaa gtgaatgtgc gatcccgcaa 3050  
 catggggggc actcatcgcc ggacagtggg gaagctgtat ggaatccgag 3100  
 atgtgaggag cactcgggac agggaccagc ccaatgtctc agctgcctgt 3150  
 ctggagttca agtgcagtgg gatgctctat gatcaggacc gtgtggaccg 3200  
 caccctggtg aaggtcatcc ccagggcag ctgccgtcga gccagtgtga 3250  
 accccatgct gcatgagtac ctggtcaacc acttgccact tgcagtcaac 3300  
 aacgacacca gtgagtacac catgctggca cccttggacc cactgggcca 3350  
 caactatggc atctacactg tcaactgacca ggaccctcgc acggccaagg 3400  
 agatcgcgct cggccggtgc tttagtgga catccgatgg ctctccaga 3450  
 atcatgaaga gcaatgtggg agtagccctc accttcaact gtgtagagag 3500  
 gcaagtaggc cgccagagtg ccttccagta cctccaaagc accccagccc 3550  
 agtcccctgc tgcaggcact gtccaaggaa gaggccctc gaggaggcag 3600  
 cagcgagcga gcaggggtgg ccagcgccag ggtggagtgg tggcctctct 3650  
 gagatttcct agagttgctc aacagccctt gatcaactaa gttttgtggt 3700  
 acttcaccct cttctgccct catttcatgt gacagccatt gtgagactga 3750  
 tgcacaaact gtcacttggg taatttaagc acttctgttt tcgtgaattt 3800  
 gcttgtttgt ttcttcatgc ctttacttac ttgttccat gctactgatt 3850  
 ggcacgtggc ccccaaatg gcacaataaa gcccctttgt gaaactgttc 3900  
 tttaaatgaa acacaagaaa ttggccactg gtaaaactct gcagcttcaa 3950  
 ctgtacttca tttaatgcca ttaatgcaaa tatacttccct cttctttttg 4000  
 catggttttg ccacactctg caatagtgat aatctgatgc tgaagatcaa 4050

ataaccaata taaagcatat ttcttggcct tgctccacag gacataggca 4100  
 agccttgatc atagttcata catataaatg gtggtgaaat aaagaaataa 4150  
 aacacaatac ttttacttga aatgtaaata acttatttat ttctttgcta 4200  
 aatttgggaat tctagtgcac attcaaagtt aagctattaa atatagggtg 4250  
 atcatagttc ctctaccaag tctggaaaga acatctcctg gtatccacaa 4300  
 ttacaccagg ttgctaactg tatttgtaca tttccctttg cattcgcttt 4350  
 tgttcttgct agaaaccag tgtagcccag ggcagatgtc aataaatgca 4400  
 tactctgtat ttcgaaaaaa 4420

<210> 124  
 <211> 1184  
 <212> PRT  
 <213> Homo sapiens

<400> 124  
 Met Val Gly Thr Lys Ala Trp Val Phe Ser Phe Leu Val Leu Glu  
     1                    5                    10                    15  
 Val Thr Ser Val Leu Gly Arg Gln Thr Met Leu Thr Gln Ser Val  
                     20                    25                    30  
 Arg Arg Val Gln Pro Gly Lys Lys Asn Pro Ser Ile Phe Ala Lys  
                     35                    40                    45  
 Pro Ala Asp Thr Leu Glu Ser Pro Gly Glu Trp Thr Thr Trp Phe  
                     50                    55                    60  
 Asn Ile Asp Tyr Pro Gly Gly Lys Gly Asp Tyr Glu Arg Leu Asp  
                     65                    70                    75  
 Ala Ile Arg Phe Tyr Tyr Gly Asp Arg Val Cys Ala Arg Pro Leu  
                     80                    85                    90  
 Arg Leu Glu Ala Arg Thr Thr Asp Trp Thr Pro Ala Gly Ser Thr  
                     95                    100                    105  
 Gly Gln Val Val His Gly Ser Pro Arg Glu Gly Phe Trp Cys Leu  
                     110                    115                    120  
 Asn Arg Glu Gln Arg Pro Gly Gln Asn Cys Ser Asn Tyr Thr Val  
                     125                    130                    135  
 Arg Phe Leu Cys Pro Pro Gly Ser Leu Arg Arg Asp Thr Glu Arg  
                     140                    145                    150  
 Ile Trp Ser Pro Trp Ser Pro Trp Ser Lys Cys Ser Ala Ala Cys  
                     155                    160                    165  
 Gly Gln Thr Gly Val Gln Thr Arg Thr Arg Ile Cys Leu Ala Glu  
                     170                    175                    180  
 Met Val Ser Leu Cys Ser Glu Ala Ser Glu Glu Gly Gln His Cys  
                     185                    190                    195  
 Met Gly Gln Asp Cys Thr Ala Cys Asp Leu Thr Cys Pro Met Gly  
                     200                    205                    210

Gln	Val	Asn	Ala	Asp	Cys	Asp	Ala	Cys	Met	Cys	Gln	Asp	Phe	Met	215	220	225
Leu	His	Gly	Ala	Val	Ser	Leu	Pro	Gly	Gly	Ala	Pro	Ala	Ser	Gly	230	235	240
Ala	Ala	Ile	Tyr	Leu	Leu	Thr	Lys	Thr	Pro	Lys	Leu	Leu	Thr	Gln	245	250	255
Thr	Asp	Ser	Asp	Gly	Arg	Phe	Arg	Ile	Pro	Gly	Leu	Cys	Pro	Asp	260	265	270
Gly	Lys	Ser	Ile	Leu	Lys	Ile	Thr	Lys	Val	Lys	Phe	Ala	Pro	Ile	275	280	285
Val	Leu	Thr	Met	Pro	Lys	Thr	Ser	Leu	Lys	Ala	Ala	Thr	Ile	Lys	290	295	300
Ala	Glu	Phe	Val	Arg	Ala	Glu	Thr	Pro	Tyr	Met	Val	Met	Asn	Pro	305	310	315
Glu	Thr	Lys	Ala	Arg	Arg	Ala	Gly	Gln	Ser	Val	Ser	Leu	Cys	Cys	320	325	330
Lys	Ala	Thr	Gly	Lys	Pro	Arg	Pro	Asp	Lys	Tyr	Phe	Trp	Tyr	His	335	340	345
Asn	Asp	Thr	Leu	Leu	Asp	Pro	Ser	Leu	Tyr	Lys	His	Glu	Ser	Lys	350	355	360
Leu	Val	Leu	Arg	Lys	Leu	Gln	Gln	His	Gln	Ala	Gly	Glu	Tyr	Phe	365	370	375
Cys	Lys	Ala	Gln	Ser	Asp	Ala	Gly	Ala	Val	Lys	Ser	Lys	Val	Ala	380	385	390
Gln	Leu	Ile	Val	Thr	Ala	Ser	Asp	Glu	Thr	Pro	Cys	Asn	Pro	Val	395	400	405
Pro	Glu	Ser	Tyr	Leu	Ile	Arg	Leu	Pro	His	Asp	Cys	Phe	Gln	Asn	410	415	420
Ala	Thr	Asn	Ser	Phe	Tyr	Tyr	Asp	Val	Gly	Arg	Cys	Pro	Val	Lys	425	430	435
Thr	Cys	Ala	Gly	Gln	Gln	Asp	Asn	Gly	Ile	Arg	Cys	Arg	Asp	Ala	440	445	450
Val	Gln	Asn	Cys	Cys	Gly	Ile	Ser	Lys	Thr	Glu	Glu	Arg	Glu	Ile	455	460	465
Gln	Cys	Ser	Gly	Tyr	Thr	Leu	Pro	Thr	Lys	Val	Ala	Lys	Glu	Cys	470	475	480
Ser	Cys	Gln	Arg	Cys	Thr	Glu	Thr	Arg	Ser	Ile	Val	Arg	Gly	Arg	485	490	495
Val	Ser	Ala	Ala	Asp	Asn	Gly	Glu	Pro	Met	Arg	Phe	Gly	His	Val	500	505	510
Tyr	Met	Gly	Asn	Ser	Arg	Val	Ser	Met	Thr	Gly	Tyr	Lys	Gly	Thr	515	520	525

Phe Thr Leu His Val Pro Gln Asp Thr Glu Arg Leu Val Leu Thr	530	535	540
Phe Val Asp Arg Leu Gln Lys Phe Val Asn Thr Thr Lys Val Leu	545	550	555
Pro Phe Asn Lys Lys Gly Ser Ala Val Phe His Glu Ile Lys Met	560	565	570
Leu Arg Arg Lys Glu Pro Ile Thr Leu Glu Ala Met Glu Thr Asn	575	580	585
Ile Ile Pro Leu Gly Glu Val Val Gly Glu Asp Pro Met Ala Glu	590	595	600
Leu Glu Ile Pro Ser Arg Ser Phe Tyr Arg Gln Asn Gly Glu Pro	605	610	615
Tyr Ile Gly Lys Val Lys Ala Ser Val Thr Phe Leu Asp Pro Arg	620	625	630
Asn Ile Ser Thr Ala Thr Ala Ala Gln Thr Asp Leu Asn Phe Ile	635	640	645
Asn Asp Glu Gly Asp Thr Phe Pro Leu Arg Thr Tyr Gly Met Phe	650	655	660
Ser Val Asp Phe Arg Asp Glu Val Thr Ser Glu Pro Leu Asn Ala	665	670	675
Gly Lys Val Lys Val His Leu Asp Ser Thr Gln Val Lys Met Pro	680	685	690
Glu His Ile Ser Thr Val Lys Leu Trp Ser Leu Asn Pro Asp Thr	695	700	705
Gly Leu Trp Glu Glu Glu Gly Asp Phe Lys Phe Glu Asn Gln Arg	710	715	720
Arg Asn Lys Arg Glu Asp Arg Thr Phe Leu Val Gly Asn Leu Glu	725	730	735
Ile Arg Glu Arg Arg Leu Phe Asn Leu Asp Val Pro Glu Ser Arg	740	745	750
Arg Cys Phe Val Lys Val Arg Ala Tyr Arg Ser Glu Arg Phe Leu	755	760	765
Pro Ser Glu Gln Ile Gln Gly Val Val Ile Ser Val Ile Asn Leu	770	775	780
Glu Pro Arg Thr Gly Phe Leu Ser Asn Pro Arg Ala Trp Gly Arg	785	790	795
Phe Asp Ser Val Ile Thr Gly Pro Asn Gly Ala Cys Val Pro Ala	800	805	810
Phe Cys Asp Asp Gln Ser Pro Asp Ala Tyr Ser Ala Tyr Val Leu	815	820	825
Ala Ser Leu Ala Gly Glu Glu Leu Gln Ala Val Glu Ser Ser Pro	830	835	840

Lys	Phe	Asn	Pro	Asn	Ala	Ile	Gly	Val	Pro	Gln	Pro	Tyr	Leu	Asn		845	850	855
Lys	Leu	Asn	Tyr	Arg	Arg	Thr	Asp	His	Glu	Asp	Pro	Arg	Val	Lys		860	865	870
Lys	Thr	Ala	Phe	Gln	Ile	Ser	Met	Ala	Lys	Pro	Arg	Pro	Asn	Ser		875	880	885
Ala	Glu	Glu	Ser	Asn	Gly	Pro	Ile	Tyr	Ala	Phe	Glu	Asn	Leu	Arg		890	895	900
Ala	Cys	Glu	Glu	Ala	Pro	Pro	Ser	Ala	Ala	His	Phe	Arg	Phe	Tyr		905	910	915
Gln	Ile	Glu	Gly	Asp	Arg	Tyr	Asp	Tyr	Asn	Thr	Val	Pro	Phe	Asn		920	925	930
Glu	Asp	Asp	Pro	Met	Ser	Trp	Thr	Glu	Asp	Tyr	Leu	Ala	Trp	Trp		935	940	945
Pro	Lys	Pro	Met	Glu	Phe	Arg	Ala	Cys	Tyr	Ile	Lys	Val	Lys	Ile		950	955	960
Val	Gly	Pro	Leu	Glu	Val	Asn	Val	Arg	Ser	Arg	Asn	Met	Gly	Gly		965	970	975
Thr	His	Arg	Arg	Thr	Val	Gly	Lys	Leu	Tyr	Gly	Ile	Arg	Asp	Val		980	985	990
Arg	Ser	Thr	Arg	Asp	Arg	Asp	Gln	Pro	Asn	Val	Ser	Ala	Ala	Cys		995	1000	1005
Leu	Glu	Phe	Lys	Cys	Ser	Gly	Met	Leu	Tyr	Asp	Gln	Asp	Arg	Val		1010	1015	1020
Asp	Arg	Thr	Leu	Val	Lys	Val	Ile	Pro	Gln	Gly	Ser	Cys	Arg	Arg		1025	1030	1035
Ala	Ser	Val	Asn	Pro	Met	Leu	His	Glu	Tyr	Leu	Val	Asn	His	Leu		1040	1045	1050
Pro	Leu	Ala	Val	Asn	Asn	Asp	Thr	Ser	Glu	Tyr	Thr	Met	Leu	Ala		1055	1060	1065
Pro	Leu	Asp	Pro	Leu	Gly	His	Asn	Tyr	Gly	Ile	Tyr	Thr	Val	Thr		1070	1075	1080
Asp	Gln	Asp	Pro	Arg	Thr	Ala	Lys	Glu	Ile	Ala	Leu	Gly	Arg	Cys		1085	1090	1095
Phe	Asp	Gly	Thr	Ser	Asp	Gly	Ser	Ser	Arg	Ile	Met	Lys	Ser	Asn		1100	1105	1110
Val	Gly	Val	Ala	Leu	Thr	Phe	Asn	Cys	Val	Glu	Arg	Gln	Val	Gly		1115	1120	1125
Arg	Gln	Ser	Ala	Phe	Gln	Tyr	Leu	Gln	Ser	Thr	Pro	Ala	Gln	Ser		1130	1135	1140
Pro	Ala	Ala	Gly	Thr	Val	Gln	Gly	Arg	Val	Pro	Ser	Arg	Arg	Gln		1145	1150	1155

Gln Arg Ala Ser Arg Gly Gly Gln Arg Gln Gly Gly Val Val Ala  
 1160 1165 1170

Ser Leu Arg Phe Pro Arg Val Ala Gln Gln Pro Leu Ile Asn  
 1175 1180

<210> 125  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 125  
 ctggtgcctc aacagggagc ag 22

<210> 126  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 126  
 ccattgtgca ggtcaggtca cag 23

<210> 127  
 <211> 40  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 127  
 ctggagcaag tgctcagctg cctgtggtca gactggggtc 40

<210> 128  
 <211> 2819  
 <212> DNA  
 <213> Homo sapiens

<400> 128  
 ctgcaagttg ttaacgccta acacacaagt atgttaggct tccaccaaag 50  
 tcctcaatat acctgaatac gcacaatatc ttaactcttc atatttggtt 100  
 ttgggatctg ctttgaggtc ccatcttcat ttaaaaaaaaa atacagagac 150  
 ctacctaccc gtacgcatac atacatatgt gtatatatat gtaaaactaga 200  
 caaagatcgc agatcataaa gcaagctctg ctttagtttc caagaagatt 250  
 acaaagaatt tagagatgta ttgtgcaaga tccctgtoga ttcatgccct 300  
 ttgggttacg gtgtcctcag tgatgcagcc ctaccctttg gtttggggac 350  
 attatgattt gtgtaagact cagatttaca cggaagaagg gaaagtttgg 400  
 gattacatgg cctgccagcc ggaatccacg gacatgacaa aatatctgaa 450

agtgaaaactc gatcctccgg atattacctg tggagaccct cctgagacgt 500  
 tctgtgcaat gggcaatccc tacatgtgca ataatgagtg tgatgcgagt 550  
 acccctgagc tggcacacccc ccctgagctg atgtttgatt ttgaaggaag 600  
 acatccctcc acattttggc agtctgccac ttggaaggag tatcccaagc 650  
 ctctccaggt taacatcact ctgtcttggg gcaaaacat tgagctaaca 700  
 gacaacatag ttattacctt tgaatctggg cgtccagacc aaatgatcct 750  
 ggagaagtct ctgattatg gacgaacatg gcagccctat cagtattatg 800  
 ccacagactg cttagatgct ttccacatgg atcctaaatc cgtgaaggat 850  
 ttatcacagc atacggtctt agaaatcatt tgcacagaag agtactcaac 900  
 agggatataca acaaatagca aaataatcca ctttgaaatc aaagacaggt 950  
 tcgcgctttt tgctggacct cgcctacgca atatggcttc cctctacgga 1000  
 cagctggata caaccaagaa actcagagat ttctttacag tcacagacct 1050  
 gaggataagg ctgttaagac cagccgttgg ggaaatattt gtagatgagc 1100  
 tacacttggc acgctacttt tacgcgatct cagacataaa ggtgcgagga 1150  
 aggtgcaagt gtaatctcca tgccactgta tgtgtgtatg acaacagcaa 1200  
 attgacatgc gaatgtgagc acaacactac aggtccagac tgtgggaaat 1250  
 gcaagaagaa ttatcagggc cgaccttggg gtccaggctc ctatctcccc 1300  
 atcccccagg gcaotgcaaa tacctgtatc ccagtatatt ccagtattgg 1350  
 tacgaatgtc tgcgacaacg agctcctgca ctgccagaac ggagggacgt 1400  
 gccacaacaa cgtgcgctgc ctgtgcccg cgcatacac gggcatcctc 1450  
 tgcgagaagc tgcggtgcga ggaggctggc agctgcggct ccgactctgg 1500  
 ccagggcgcg ccccgccagc gcacccagc gctgctgctg ctgaccacgc 1550  
 tgctgggaac cgcagcccc ctggtgttct aggtgtcacc tccagccaca 1600  
 ccggacgggc ctgtgccgtg gggaagcaga cacaacccaa acatttgcta 1650  
 ctaacatagg aaacacacac atacagacac cccactcag acagtgtaca 1700  
 aactaagaag gcctaactga actaagccat atttatcacc cgtggacagc 1750  
 acatccgagt caagactgtt aatttctgac tccagaggag ttggcagctg 1800  
 ttgatattat cactgcaaat cacattgcca gctgcagagc atattgtgga 1850  
 ttggaaaggc tgcgacagcc ccccaaacag gaaagacaaa aaacaaacaa 1900  
 atcaaccgac ctaaaaacat tggctactct agcgtggtgc gccctagtac 1950  
 gactccgccc agtgtgtgga ccaaccaa at agcattcttt gctgtcaggt 2000  
 gcattgtggg cataaggaaa tctgttacia gctgccatat tggcctgctt 2050

ccgtccctga atcccttcca acctgtgctt tagtgaacgt tgctctgtaa 2100  
 ccctcgttgg ttgaaagatt tctttgtctg atgttagtga tgcacatgtg 2150  
 taacagcccc ctctaaaagc gcaagccagt cataccctcg tatatcttag 2200  
 cagcactgag tccagtgcga gcacacaccc actatacaag agtggctata 2250  
 ggaaaaaaga aagtgtatct atccttttgt attcaaatga agttattttt 2300  
 cttgaactac tgtaatatgt agattttttg tattattgcc aatttgtgtt 2350  
 accagacaat ctgttaatgt atctaattcg aatcagcaaa gactgacatt 2400  
 ttattttgtc ctctttcggt ctgttttgtt tcaactgtgca gagatttctc 2450  
 tgtaagggca acgaacgtgc tggcatcaaa gaatatcagt ttacatatat 2500  
 aacaagtgtataagattcc accaaaggac attctaaatg ttttcttgtt 2550  
 gctttaacac tggaagattt aaagaataaa aactcctgca taaacgattt 2600  
 caggaatttg tattgcaatt tcttaagatg aaaggaacag ccaccaagca 2650  
 gtttcacact cactttactg atttctgtgt ggactgagta cattcagctg 2700  
 acgaatttag ttcccaggaa gatggattga tgttcactag cttggacaac 2750  
 ttctgcaaaa tatgagacta tttccacttg ggaaaaatta caacagcaaa 2800  
 aaaaaaaaaa aaaaaaaaaa 2819

<210> 129  
 <211> 438  
 <212> PRT  
 <213> Homo sapiens

<400> 129  
 Met Tyr Leu Ser Arg Ser Leu Ser Ile His Ala Leu Trp Val Thr  
 1 5 10 15  
 Val Ser Ser Val Met Gln Pro Tyr Pro Leu Val Trp Gly His Tyr  
 20 25 30  
 Asp Leu Cys Lys Thr Gln Ile Tyr Thr Glu Glu Gly Lys Val Trp  
 35 40 45  
 Asp Tyr Met Ala Cys Gln Pro Glu Ser Thr Asp Met Thr Lys Tyr  
 50 55 60  
 Leu Lys Val Lys Leu Asp Pro Pro Asp Ile Thr Cys Gly Asp Pro  
 65 70 75  
 Pro Glu Thr Phe Cys Ala Met Gly Asn Pro Tyr Met Cys Asn Asn  
 80 85 90  
 Glu Cys Asp Ala Ser Thr Pro Glu Leu Ala His Pro Pro Glu Leu  
 95 100 105  
 Met Phe Asp Phe Glu Gly Arg His Pro Ser Thr Phe Trp Gln Ser  
 110 115 120  
 Ala Thr Trp Lys Glu Tyr Pro Lys Pro Leu Gln Val Asn Ile Thr



	125		130		135
Leu Ser Trp Ser	Lys Thr Ile Glu Leu	Thr Asp Asn Ile Val	Ile		
	140		145		150
Thr Phe Glu Ser	Gly Arg Pro Asp Gln	Met Ile Leu Glu Lys	Ser		
	155		160		165
Leu Asp Tyr Gly	Arg Thr Trp Gln Pro	Tyr Gln Tyr Tyr Ala	Thr		
	170		175		180
Asp Cys Leu Asp	Ala Phe His Met Asp	Pro Lys Ser Val Lys	Asp		
	185		190		195
Leu Ser Gln His	Thr Val Leu Glu Ile	Ile Cys Thr Glu Glu	Tyr		
	200		205		210
Ser Thr Gly Tyr	Thr Thr Asn Ser Lys	Ile Ile His Phe Glu	Ile		
	215		220		225
Lys Asp Arg Phe	Ala Leu Phe Ala Gly	Pro Arg Leu Arg Asn	Met		
	230		235		240
Ala Ser Leu Tyr	Gly Gln Leu Asp Thr	Thr Lys Lys Leu Arg	Asp		
	245		250		255
Phe Phe Thr Val	Thr Asp Leu Arg Ile	Arg Leu Leu Arg Pro	Ala		
	260		265		270
Val Gly Glu Ile	Phe Val Asp Glu Leu	His Leu Ala Arg Tyr	Phe		
	275		280		285
Tyr Ala Ile Ser	Asp Ile Lys Val Arg	Gly Arg Cys Lys Cys	Asn		
	290		295		300
Leu His Ala Thr	Val Cys Val Tyr Asp	Asn Ser Lys Leu Thr	Cys		
	305		310		315
Glu Cys Glu His	Asn Thr Thr Gly Pro	Asp Cys Gly Lys Cys	Lys		
	320		325		330
Lys Asn Tyr Gln	Gly Arg Pro Trp Ser	Pro Gly Ser Tyr Leu	Pro		
	335		340		345
Ile Pro Lys Gly	Thr Ala Asn Thr Cys	Ile Pro Ser Ile Ser	Ser		
	350		355		360
Ile Gly Thr Asn	Val Cys Asp Asn Glu	Leu Leu His Cys Gln	Asn		
	365		370		375
Gly Gly Thr Cys	His Asn Asn Val Arg	Cys Leu Cys Pro Ala	Ala		
	380		385		390
Tyr Thr Gly Ile	Leu Cys Glu Lys Leu	Arg Cys Glu Glu Ala	Gly		
	395		400		405
Ser Cys Gly Ser	Asp Ser Gly Gln Gly	Ala Pro Pro His Gly	Thr		
	410		415		420
Pro Ala Leu Leu	Leu Leu Thr Thr Leu	Leu Gly Thr Ala Ser	Pro		
	425		430		435
Leu Val Phe					

<210> 130  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 130  
tcgattatgg acgaacatgg cagc 24

<210> 131  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 131  
ttctgagatc cctcatcctc 20

<210> 132  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 132  
aggttcaggg acagcaagtt tggg 24

<210> 133  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 133  
tttgctggac ctcggtacg gaattggctt ccctctacgg acagctggat 50

<210> 134  
<211> 1493  
<212> DNA  
<213> Homo sapiens

<400> 134  
cccacgcgtc cgggtgacct gggccgagcc ctcccggctg gctaagattg 50  
ctgaggaggc ggcgggtagc tggcaggcgc cgacttcoga aggccgccgt 100  
ccgggcgagg tgtcctcatg acttctcttg tggaccatgt ccgtgatctt 150  
ttttgcctgc gtggtacggg taagggatgg actgcccctc tcagcctcta 200  
ctgattttta ccacacccaa gatttttttg aatggaggag acggctcaag 250  
agtttagcct tgcgactggc ccagtatcca ggtcgaggtt ctgcagaagg 300

ttgtgacttt agtatacatt tttcttcttt cggggacgtg gcctgcatgg 350  
 ctatctgctc ctgccagtgt ccagcagcca tggccttctg cttcctggag 400  
 accctgtggt gggaattcac agcttcttat gacactacct gcattggcct 450  
 agcctccagg ccatacgttt ttcttgagtt tgacagcatc attcagaaaag 500  
 tgaagtggca ttttaactat gtaagttcct ctcagatgga gtgcagcttg 550  
 gaaaaaattc aggaggagct caagttgcag cctccagcgg ttctcactct 600  
 ggaggacaca gatgtggcaa atggggtgat gaatggtcac acaccgatgc 650  
 acttgagacc tgctcctaata ttccgaatgg aaccagtgac agccctgggt 700  
 atcctctccc tcattctcaa catcatgtgt gctgccctga atctcattcg 750  
 aggagttcac cttgcagaac attctttaca ggatccaagg agctggttct 800  
 gctggttggc ccaaacctcg tgagccagcc acccctgacc caaatgagga 850  
 gagctctgat tctcccatcc gggagcagtg atgtcaaact tctgctgctg 900  
 gggaaatctc atcagcaggg agcctgtgga aaagggcatg tcagtgaat 950  
 ctgggaatgg ctggattcgg aaacatctgc ccatgtgtat tgatggcaga 1000  
 gctgttgccc acaagcgcct tttatctagg gtaaaattaa caaatccatt 1050  
 ctattcctct gacctatgct tagtacatat gacctttaac ccttacattt 1100  
 atatgattct ggggttgctt cagaagtgtt atttcatgaa tcattcatat 1150  
 gatttgatcc ccaggattc tattttgttt aatgggcttt tctactaaaa 1200  
 gcataaaata ctgaggctga tttagtcagg gcaaaaaccat ttactttaca 1250  
 tattcgtttt caatacttgc tgttcatgtt acacaagctt cttacggttt 1300  
 tcttgtaaca ataaatatat tgagtaaata atgggtacat tttacaaaac 1350  
 tcagtagtac aacctaaact tgtataaaaag tgtgtaaaaa tgtatagcca 1400  
 tttatatcct atgtataaat taaatgaggt ggcttcagaa atggcagaat 1450  
 aaatctaaag tgttttattaa aaaaaaaaaa aaaaaaaaaa aag 1493

<210> 135

<211> 228

<212> PRT

<213> Homo sapiens

<400> 135

Met	Ser	Val	Ile	Phe	Phe	Ala	Cys	Val	Val	Arg	Val	Arg	Asp	Gly
1				5					10					15

Leu	Pro	Leu	Ser	Ala	Ser	Thr	Asp	Phe	Tyr	His	Thr	Gln	Asp	Phe
				20				25						30

Leu	Glu	Trp	Arg	Arg	Arg	Leu	Lys	Ser	Leu	Ala	Leu	Arg	Leu	Ala
				35				40						45

Gln	Tyr	Pro	Gly	Arg	Gly	Ser	Ala	Glu	Gly	Cys	Asp	Phe	Ser	Ile	50	55	60
His	Phe	Ser	Ser	Phe	Gly	Asp	Val	Ala	Cys	Met	Ala	Ile	Cys	Ser	65	70	75
Cys	Gln	Cys	Pro	Ala	Ala	Met	Ala	Phe	Cys	Phe	Leu	Glu	Thr	Leu	80	85	90
Trp	Trp	Glu	Phe	Thr	Ala	Ser	Tyr	Asp	Thr	Thr	Cys	Ile	Gly	Leu	95	100	105
Ala	Ser	Arg	Pro	Tyr	Ala	Phe	Leu	Glu	Phe	Asp	Ser	Ile	Ile	Gln	110	115	120
Lys	Val	Lys	Trp	His	Phe	Asn	Tyr	Val	Ser	Ser	Ser	Gln	Met	Glu	125	130	135
Cys	Ser	Leu	Glu	Lys	Ile	Gln	Glu	Glu	Leu	Lys	Leu	Gln	Pro	Pro	140	145	150
Ala	Val	Leu	Thr	Leu	Glu	Asp	Thr	Asp	Val	Ala	Asn	Gly	Val	Met	155	160	165
Asn	Gly	His	Thr	Pro	Met	His	Leu	Glu	Pro	Ala	Pro	Asn	Phe	Arg	170	175	180
Met	Glu	Pro	Val	Thr	Ala	Leu	Gly	Ile	Leu	Ser	Leu	Ile	Leu	Asn	185	190	195
Ile	Met	Cys	Ala	Ala	Leu	Asn	Leu	Ile	Arg	Gly	Val	His	Leu	Ala	200	205	210
Glu	His	Ser	Leu	Gln	Asp	Pro	Arg	Ser	Trp	Phe	Cys	Trp	Leu	Asp	215	220	225

Gln Thr Ser

<210> 136  
 <211> 239  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 39, 61, 143, 209  
 <223> unknown base

<400> 136  
 tgcttcctgg agaccctgtg gtgggaattc acagcttcnt atgacactac 50  
 ctgcattggc ntagcctcca ggccatacgc ttttcttgag tttgacagca 100  
 tcattcagaa agtgaagtgg cattttaact atgtaagttc ctntcagatg 150  
 gagtgcagct tggaaaaaat tcaggaggag ctcaagttgc agcctccagc 200  
 ggttctcant atggaggaca cagatgtggc aaatggggt 239

<210> 137  
 <211> 2300  
 <212> DNA

<213> Homo sapiens

<400> 137

ctcagcggcg cttcctcgta gcgagcctag tggcgggtgt ttgcattgaa 50  
acgtgagcgc gacccgacct taaagagtgg ggagcaaagg gaggacagag 100  
ccctttaaaa cgaggcgggt ggtgcctgcc cctttaaggg cggggcgtcc 150  
ggacgactgt atctgagccc cagactgccc cgagtttctg tcgcaggctg 200  
cgaggaaagg cccctaggct gggctctgggt gcttggcggc ggcggcttcc 250  
tccccgctcg tcctccccgg gccagagggc acctcggctt cagtcatgct 300  
gagcagagta tggaagcacc tgactacgaa gtgctatccg tgcgagaaca 350  
gctattccac gagaggatcc gcgagtgtat tatatcaaca cttctgtttg 400  
caacactgta catcctctgc cacatcttcc tgaccgctt caagaagcct 450  
gtcgagttca ccacagtga tgatgaagat gccaccgtca acaagattgc 500  
gtcgagctg tgcaccttta ccttggaat tgccctgggt gctgtcctgc 550  
tcctgccctt ctccatcacc agcaatgagg tgctgctctc cctgcctcgg 600  
aactactaca tccagtgggt caacggctcc ctcatccatg gcctctgga 650  
ccttggtttt ctcttcccca acctgtccct catcttctc atgccctttg 700  
catatttctt cactgagtct gagggtttt ctggctccag aaagggtgtc 750  
ctgggccggg tctatgagac agtgggtgat ttgatgctcc tcaactctgct 800  
gggtgctagg atggtgtggg tggcatcagc cattgtggac aagaacaagg 850  
ccaacagaga gtcactctat gacttttggg agtactatct cccctacctc 900  
tactcatgca tctccttctt tggggttctg ctgctcctgg tgtgtactcc 950  
actgggtctc gcccgcatgt tctccgtcac tgggaagctg ctagtcaagc 1000  
ccgggtgct ggaagacctg gaggagcagc tgtactgctc agcctttgag 1050  
gaggcagccc tgaccgcgag gatctgtaat cctacttctt gctggctgcc 1100  
tttagacatg gagctgctac acagacaggt cctggctctg cagacacaga 1150  
gggtcctgct ggagaagagg cggaaggctt cagcctggca acggaacctg 1200  
ggctaccccc tggctatgct gtgcttgctg gtgctgacgg gcctgtctgt 1250  
gctcattgtg gccatccaca tcctggagct gctcatcgat gaggtgccca 1300  
tgccccgagg catgcagggt acctccttag gccaggctct cttctccaag 1350  
ctgggtcctt ttggtgccgt cattcagggt gtactcatct tttaacctaat 1400  
gggtgtctca gttgtgggt tctatagctc tccactcttc cggagcctgc 1450  
ggccagatg gcacgacact gccatgacgc agataattgg gaactgtgtc 1500

tgtctcctgg tccaaagctc agcacttcct gtcttctctc gaaccctggg 1550  
 gctcactcgc tttgacctgc tgggtgactt tggacgcttc aactggctgg 1600  
 gcaattttcta cattgtgttc ctctacaacg cagcctttgc aggccctacc 1650  
 acactctgtc tgggtgaagac cttcactgca gctgtgcggg cagagctgat 1700  
 ccgggccttt gggctggaca gactgccgct gcccgtctcc ggtttccccc 1750  
 aggcattctag gaagaccag caccagtgc ctccagctgg gggtggaag 1800  
 gaaaaaactg gacactgcc tctgctgcct aggcctggag ggaagcccaa 1850  
 ggctacttgg acctcaggac ctggaatctg agagggtggg tggcagaggg 1900  
 gagcagagcc atctgcacta ttgcataatc tgagccagag tttgggacca 1950  
 ggacctcctg cttttccata cttactgtg gcctcagcat ggggtagggc 2000  
 tgggtgactg ggtctagccc ctgatcccaa atctgtttac acatcaatct 2050  
 gcctcactgc tgttctgggc catccccata gccatgttta catgatttga 2100  
 tgtgcaatag ggtggggtag gggcagggaa aggactgggc cagggcaggc 2150  
 tcgggagata gattgtctcc cttgcctctg gccagcaga gcctaagcac 2200  
 tgtgctatcc tggaggggct ttggaccacc tgaaagacca aggggatagg 2250  
 gaggaggagg cttcagccat cagcaataaa gttgatccca gggaaaaaaa 2300

<210> 138  
 <211> 489  
 <212> PRT  
 <213> Homo sapiens

<400> 138  
 Met Glu Ala Pro Asp Tyr Glu Val Leu Ser Val Arg Glu Gln Leu  
 1 5 10 15  
 Phe His Glu Arg Ile Arg Glu Cys Ile Ile Ser Thr Leu Leu Phe  
 20 25 30  
 Ala Thr Leu Tyr Ile Leu Cys His Ile Phe Leu Thr Arg Phe Lys  
 35 40 45  
 Lys Pro Ala Glu Phe Thr Thr Val Asp Asp Glu Asp Ala Thr Val  
 50 55 60  
 Asn Lys Ile Ala Leu Glu Leu Cys Thr Phe Thr Leu Ala Ile Ala  
 65 70 75  
 Leu Gly Ala Val Leu Leu Leu Pro Phe Ser Ile Ile Ser Asn Glu  
 80 85 90  
 Val Leu Leu Ser Leu Pro Arg Asn Tyr Tyr Ile Gln Trp Leu Asn  
 95 100 105  
 Gly Ser Leu Ile His Gly Leu Trp Asn Leu Val Phe Leu Phe Pro  
 110 115 120  
 Asn Leu Ser Leu Ile Phe Leu Met Pro Phe Ala Tyr Phe Phe Thr

125					130					135				
Glu	Ser	Glu	Gly	Phe	Ala	Gly	Ser	Arg	Lys	Gly	Val	Leu	Gly	Arg
				140					145					150
Val	Tyr	Glu	Thr	Val	Val	Met	Leu	Met	Leu	Leu	Thr	Leu	Leu	Val
				155					160					165
Leu	Gly	Met	Val	Trp	Val	Ala	Ser	Ala	Ile	Val	Asp	Lys	Asn	Lys
				170					175					180
Ala	Asn	Arg	Glu	Ser	Leu	Tyr	Asp	Phe	Trp	Glu	Tyr	Tyr	Leu	Pro
				185					190					195
Tyr	Leu	Tyr	Ser	Cys	Ile	Ser	Phe	Leu	Gly	Val	Leu	Leu	Leu	Leu
				200					205					210
Val	Cys	Thr	Pro	Leu	Gly	Leu	Ala	Arg	Met	Phe	Ser	Val	Thr	Gly
				215					220					225
Lys	Leu	Leu	Val	Lys	Pro	Arg	Leu	Leu	Glu	Asp	Leu	Glu	Glu	Gln
				230					235					240
Leu	Tyr	Cys	Ser	Ala	Phe	Glu	Glu	Ala	Ala	Leu	Thr	Arg	Arg	Ile
				245					250					255
Cys	Asn	Pro	Thr	Ser	Cys	Trp	Leu	Pro	Leu	Asp	Met	Glu	Leu	Leu
				260					265					270
His	Arg	Gln	Val	Leu	Ala	Leu	Gln	Thr	Gln	Arg	Val	Leu	Leu	Glu
				275					280					285
Lys	Arg	Arg	Lys	Ala	Ser	Ala	Trp	Gln	Arg	Asn	Leu	Gly	Tyr	Pro
				290					295					300
Leu	Ala	Met	Leu	Cys	Leu	Leu	Val	Leu	Thr	Gly	Leu	Ser	Val	Leu
				305					310					315
Ile	Val	Ala	Ile	His	Ile	Leu	Glu	Leu	Leu	Ile	Asp	Glu	Ala	Ala
				320					325					330
Met	Pro	Arg	Gly	Met	Gln	Gly	Thr	Ser	Leu	Gly	Gln	Val	Ser	Phe
				335					340					345
Ser	Lys	Leu	Gly	Ser	Phe	Gly	Ala	Val	Ile	Gln	Val	Val	Leu	Ile
				350					355					360
Phe	Tyr	Leu	Met	Val	Ser	Ser	Val	Val	Gly	Phe	Tyr	Ser	Ser	Pro
				365					370					375
Leu	Phe	Arg	Ser	Leu	Arg	Pro	Arg	Trp	His	Asp	Thr	Ala	Met	Thr
				380					385					390
Gln	Ile	Ile	Gly	Asn	Cys	Val	Cys	Leu	Leu	Val	Leu	Ser	Ser	Ala
				395					400					405
Leu	Pro	Val	Phe	Ser	Arg	Thr	Leu	Gly	Leu	Thr	Arg	Phe	Asp	Leu
				410					415					420
Leu	Gly	Asp	Phe	Gly	Arg	Phe	Asn	Trp	Leu	Gly	Asn	Phe	Tyr	Ile
				425					430					435
Val	Phe	Leu	Tyr	Asn	Ala	Ala	Phe	Ala	Gly	Leu	Thr	Thr	Leu	Cys

440	445	450
Leu Val Lys Thr Phe Thr Ala Ala Val	Arg Ala Glu Leu Ile Arg	
455	460	465
Ala Phe Gly Leu Asp Arg Leu Pro Leu	Pro Val Ser Gly Phe Pro	
470	475	480
Gln Ala Ser Arg Lys Thr Gln His Gln		
485		

<210> 139  
 <211> 294  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 53, 57  
 <223> unknown base

<400> 139  
 ggctgccgag ggaaggcccc ttgggttggt cttggttgct tggcggcggc 50  
 ggnttcntcc ccgctcgtcc tccccgggcc cagaggcacc tcggcttcag 100  
 tcatgctgag cagagtatgg aagcacctga ctacgaagtg ctatccgtgc 150  
 gagaacagct attccacgag aggatccgag agtgtattat atcaacactt 200  
 ctgtttgcaa cactgtacat cctctgccac atcttcctga cccgcttcaa 250  
 gaagcctgct gagttcacca cagtggatga tgaagatgcc accg 294

<210> 140  
 <211> 526  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 197, 349  
 <223> unknown base

<400> 140  
 gaccgacctt aaagagtggg agcaaaggga ggacagagcc ttttaaaacg 50  
 aggcgggtggt gcctgccctt taagggcggg gcgtccggac gactgtatct 100  
 gagccccaga ctgccccgag tttctgtcgc aggctgcgag gaaaggcccc 150  
 taggctgggt ctgggtgcttg gggcgggcgg cttcctcccc gttgtcntcc 200  
 ccggggcccag aggcacctcg gcttcagtca tgctgagcag agtatggaag 250  
 cacctgacta cgaagtgcta tccgtgcgag aacagctatt ccacgagagg 300  
 atccgcgagt gtattatata aacacttctg tttgcaacac tgtacatcnt 350  
 ctgcccacatc ttcttgacct gcttcaagaa gcctgctgag ttcaccacag 400  
 tggatgatga agatgccacc gtcaacaaga ttgcgctcga gctgtgcacc 450



tttaccctgg caattgccct ggggtgctgtc ctgctcctgc ccttctccat 500  
catcagcaat gaggtgctgc actccc 526

<210> 141  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 141  
gactgtatct gagccccaga ctgc 24

<210> 142  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 142  
tcagcaatga ggtgctgctc 20

<210> 143  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 143  
tgaggaagat gagggacagg ttgg 24

<210> 144  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 144  
tatggaagca cctgactacg aagtgcctatc cgtgcgagaa cagctattcc 50

<210> 145  
<211> 685  
<212> DNA  
<213> Homo sapiens

<400> 145  
gatgtgctcc ttggagctgg tgtgcagtgt cctgactgta agatcaagtc 50  
caaacctgtt ttggaattga ggaaacttct cttttgatct cagcccttgg 100  
tgggtccaggt cttcatgctg ctgtgggtga tattactggg cctggctcct 150  
gtcagtggac agtttgcaag gacaccacagg cccattatct toctccagcc 200  
tccatggacc acagtcttcc aaggagagag agtgaccctc acttgcaagg 250

gatttcgctt ctactcacca cagaaaacaa aatggtacca tcggtacctt 300  
 gggaaagaaa tactaagaga aaccccagac aatatccttg aggttcagga 350  
 atctggagag tacagatgcc agggccaggg ctcccctctc agtagccctg 400  
 tgcacttgga tttttcttca gagatgggat ttcctcatgc tgcccaggct 450  
 aatgttgaac tcctgggctc aagtgatctg ctcacctagg cctctcaaag 500  
 cgctgggatt acagcttcgc tgatcctgca agctccactt tctgtgtttg 550  
 aaggagactc tgtggttctg aggtgccggg caaaggcgga agtaacactg 600  
 aataatacta tttaacaaga tgataatgtc ctggcattcc ttaataaaaag 650  
 aactgacttc caaaaaaaaaa aaaaaaaaaa aaaaa 685

<210> 146  
 <211> 124  
 <212> PRT  
 <213> Homo sapiens

<400> 146  
 Met Leu Leu Trp Val Ile Leu Leu Val Leu Ala Pro Val Ser Gly  
 1 5 10 15  
 Gln Phe Ala Arg Thr Pro Arg Pro Ile Ile Phe Leu Gln Pro Pro  
 20 25 30  
 Trp Thr Thr Val Phe Gln Gly Glu Arg Val Thr Leu Thr Cys Lys  
 35 40 45  
 Gly Phe Arg Phe Tyr Ser Pro Gln Lys Thr Lys Trp Tyr His Arg  
 50 55 60  
 Tyr Leu Gly Lys Glu Ile Leu Arg Glu Thr Pro Asp Asn Ile Leu  
 65 70 75  
 Glu Val Gln Glu Ser Gly Glu Tyr Arg Cys Gln Ala Gln Gly Ser  
 80 85 90  
 Pro Leu Ser Ser Pro Val His Leu Asp Phe Ser Ser Glu Met Gly  
 95 100 105  
 Phe Pro His Ala Ala Gln Ala Asn Val Glu Leu Leu Gly Ser Ser  
 110 115 120  
 Asp Leu Leu Thr

<210> 147  
 <211> 1621  
 <212> DNA  
 <213> Homo sapiens

<400> 147  
 cagaagaggg ggctagctag ctgtctctgc ggaccaggga gacccccgcg 50  
 cccccccggt gtgaggcggc ctcacagggc cgggtgggct ggcgagccga 100  
 cgcggcggcg gaggaggctg tgaggagtgt gtggaacagg acccgggaca 150

gaggaacccat ggctccgcag aacctgagca ccttttgcct gttgctgcta 200  
 tacctcatcg gggcggatgat tgccggacga gatttctata agatcttggg 250  
 ggtgcctcga agtgcoctcta taaaggatat taaaaaggcc tataggaaac 300  
 tagccctgca gcttcatccc gaccggaacc ctgatgatcc acaagcccag 350  
 gagaaattcc aggatctggg tgctgcttat gaggttctgt cagatagtga 400  
 gaaacggaaa cagtacgata cttatggtga agaaggatta aaagatggtc 450  
 atcagagctc ccatggagac attttttcac acttctttgg ggattttggg 500  
 ttcatgtttg gaggaacccc tcgtcagcaa gacagaaata ttccaagagg 550  
 aagtgatatt attgtagatc tagaagtcac tttggaagaa gtatatgcag 600  
 gaaattttgt ggaagtagtt agaaacaaac ctgtggcaag gcaggctcct 650  
 ggcaaacgga agtgcaattg tcggcaagag atgcggacca cccagctggg 700  
 ccctggggcg ttccaaatga cccaggaggt ggtctgcgac gaatgcccta 750  
 atgtcaaact agtgaatgaa gaacgaacgc tggaagtaga aatagagcct 800  
 ggggtgagag acggcatgga gtaccctttt attggagaag gtgagcctca 850  
 cgtggatggg gagcctggag atttacggtt ccgaatcaaa gttgtcaagc 900  
 acccaatatt tgaaaggaga ggagatgatt tgtacacaaa tgtgacaatc 950  
 tcattagttg agtcactggt tggctttgag atggatatta ctacttgga 1000  
 tggtcacaag gtacatattt cccgggataa gatcaccagg ccaggagcga 1050  
 agctatggaa gaaaggggaa gggctcccca actttgacaa caacaatatc 1100  
 aagggctctt tgataatcac ttttgatgtg gattttccaa aagaacagtt 1150  
 aacagaggaa gcgagagaag gtatcaaaca gctactgaaa caagggtcag 1200  
 tgcagaaggt atacaatgga ctgcaaggat attgagagtg aataaaattg 1250  
 gactttgttt aaaataagtg aataagcgat atttattatc tgcaaggttt 1300  
 ttttgtgtgt gttttgttt ttattttcaa tatgcaagtt aggcttaatt 1350  
 tttttatcta atgatcatca tgaaatgaat aagagggctt aagaatttgt 1400  
 ccatttgcat tcggaaaaga atgaccagca aaagggtttac taatacctct 1450  
 ccctttgggg atttaatgtc tgggtgctgcc gcctgagttt caagaattaa 1500  
 agctgcaaga ggactccagg agcaaaagaa acacaatata gagggttgga 1550  
 gttgttagca atttcattca aaatgccaac tggagaagtc tgtttttaaa 1600  
 tacattttgt tgttattttt a 1621

<210> 148  
 <211> 358  
 <212> PRT

<213> Homo sapiens

<400> 148

Met	Ala	Pro	Gln	Asn	Leu	Ser	Thr	Phe	Cys	Leu	Leu	Leu	Leu	Tyr
1				5					10					15
Leu	Ile	Gly	Ala	Val	Ile	Ala	Gly	Arg	Asp	Phe	Tyr	Lys	Ile	Leu
				20					25					30
Gly	Val	Pro	Arg	Ser	Ala	Ser	Ile	Lys	Asp	Ile	Lys	Lys	Ala	Tyr
				35					40					45
Arg	Lys	Leu	Ala	Leu	Gln	Leu	His	Pro	Asp	Arg	Asn	Pro	Asp	Asp
				50					55					60
Pro	Gln	Ala	Gln	Glu	Lys	Phe	Gln	Asp	Leu	Gly	Ala	Ala	Tyr	Glu
				65					70					75
Val	Leu	Ser	Asp	Ser	Glu	Lys	Arg	Lys	Gln	Tyr	Asp	Thr	Tyr	Gly
				80					85					90
Glu	Glu	Gly	Leu	Lys	Asp	Gly	His	Gln	Ser	Ser	His	Gly	Asp	Ile
				95					100					105
Phe	Ser	His	Phe	Phe	Gly	Asp	Phe	Gly	Phe	Met	Phe	Gly	Gly	Thr
				110					115					120
Pro	Arg	Gln	Gln	Asp	Arg	Asn	Ile	Pro	Arg	Gly	Ser	Asp	Ile	Ile
				125					130					135
Val	Asp	Leu	Glu	Val	Thr	Leu	Glu	Glu	Val	Tyr	Ala	Gly	Asn	Phe
				140					145					150
Val	Glu	Val	Val	Arg	Asn	Lys	Pro	Val	Ala	Arg	Gln	Ala	Pro	Gly
				155					160					165
Lys	Arg	Lys	Cys	Asn	Cys	Arg	Gln	Glu	Met	Arg	Thr	Thr	Gln	Leu
				170					175					180
Gly	Pro	Gly	Arg	Phe	Gln	Met	Thr	Gln	Glu	Val	Val	Cys	Asp	Glu
				185					190					195
Cys	Pro	Asn	Val	Lys	Leu	Val	Asn	Glu	Glu	Arg	Thr	Leu	Glu	Val
				200					205					210
Glu	Ile	Glu	Pro	Gly	Val	Arg	Asp	Gly	Met	Glu	Tyr	Pro	Phe	Ile
				215					220					225
Gly	Glu	Gly	Glu	Pro	His	Val	Asp	Gly	Glu	Pro	Gly	Asp	Leu	Arg
				230					235					240
Phe	Arg	Ile	Lys	Val	Val	Lys	His	Pro	Ile	Phe	Glu	Arg	Arg	Gly
				245					250					255
Asp	Asp	Leu	Tyr	Thr	Asn	Val	Thr	Ile	Ser	Leu	Val	Glu	Ser	Leu
				260					265					270
Val	Gly	Phe	Glu	Met	Asp	Ile	Thr	His	Leu	Asp	Gly	His	Lys	Val
				275					280					285
His	Ile	Ser	Arg	Asp	Lys	Ile	Thr	Arg	Pro	Gly	Ala	Lys	Leu	Trp
				290					295					300

Lys	Lys	Gly	Glu	Gly	Leu	Pro	Asn	Phe	Asp	Asn	Asn	Asn	Ile	Lys
				305					310					315
Gly	Ser	Leu	Ile	Ile	Thr	Phe	Asp	Val	Asp	Phe	Pro	Lys	Glu	Gln
				320					325					330
Leu	Thr	Glu	Glu	Ala	Arg	Glu	Gly	Ile	Lys	Gln	Leu	Leu	Lys	Gln
				335					340					345
Gly	Ser	Val	Gln	Lys	Val	Tyr	Asn	Gly	Leu	Gln	Gly	Tyr		
				350					355					

<210> 149  
 <211> 509  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 34, 52, 134, 142, 155, 158, 196, 217, 228, 272, 347, 410, 445, 482  
 <223> unknown base

<400> 149  
 tgggaccagg gaaccccggg ccccccggtg gagngcctaa caggccggtg 50  
 gntgcgaccg aagcggcggg cggaggaggt tttgaggatt tttggaacag 100  
 gacccggaaca gaggaacat ggttccgcag aacntgagca cnttttgcct 150  
 gttgntgnta tacttcatcg gggcggtgat tgccggaoga gatttntata 200  
 agattttggg gtgcctngaa gtgcctnta taaaggatat taaaaaggcc 250  
 tataggaaac tagccctgca gntttatccc gaccggaacc ctgatgatcc 300  
 acaagcccag gagaaattcc aggatttggg tgctgcttat gaggttntgt 350  
 cagatagtga gaaacggaaa cagtacgata attatggtga agaaggatta 400  
 aaagatggtn atcagagctc ccatggagac atttttttcac acttnttttg 450  
 ggattttggt ttcattgttg gaggaacccc tngtcagcaa gacagaaata 500  
 ttccaagag 509

<210> 150  
 <211> 1532  
 <212> DNA  
 <213> Homo sapiens

<400> 150  
 ggcacgaggc ggcggggcag tcgcgggatg cgcccgggag ccacagcctg 50  
 aggcctcag gtctctgcag gtgtcgtgga ggaacctagc acctgccatc 100  
 ctcttcccca atttgccact tccagcagct ttagcccatg aggaggatgt 150  
 gaccgggact gagtcaggag ccctctggaa gcatggagac tgtggtgatt 200  
 gttgccatag gtgtgctggc caccatcttt ctggcttcgt ttgcagcctt 250  
 ggtgctggtt tgcaggcagc gctactgccg gccgcgagac ctgctgcagc 300

gctatgattc taagcccatt gtggacctca ttggtgccat ggagacccag 350  
tctgagccct ctgagttaga actggacgat gtcgttatca ccaacccccca 400  
cattgaggcc attctggaga atgaagactg gatcgaagat gcctcgggtc 450  
tcatgtccca ctgcattgcc atcttgaaga tttgtcacac tctgacagag 500  
aagcttggtt ccatgacaat gggctctggg gccaagatga agacttcagc 550  
cagtgtcagc gacatcattg tgggtggccaa gcggatcagc cccaggggtg 600  
atgatgttgt gaagtcgatg taccctccgt tggaccccaa actcctggac 650  
gcacggacga ctgccctgct cctgtctgtc agtcacctgg tgctgggtgac 700  
aaggaatgcc tgccatctga cgggaggcct ggactggatt gaccagtctc 750  
tgtcggctgc tgaggagcat ttggaagtcc ttcgagaagc agccctagct 800  
tctgagccag ataaaggcct cccaggccct gaaggcttcc tgcaggagca 850  
gtctgcaatt tagtgcctac aggccagcag ctagccatga aggccctgc 900  
cgccatccct ggatggctca gcttagcctt ctactttttc ctatagagtt 950  
agttgttctc cacggctgga gagttcagct gtgtgtgcat agtaaagcag 1000  
gagatccccg tcagtttatg cctcttttgc agttgcaaac tgtggctggt 1050  
gagtggcagt ctaatactac agttagggga gatgccattc actctctgca 1100  
agaggagtat tgaaaactgg tggactgtca gctttattta gctcacctag 1150  
tgttttcaag aaaattgagc caccgtctaa gaaatcaaga ggtttcacat 1200  
taaaattaga atttctggcc tctctcgatc ggtcagaatg tgtggcaatt 1250  
ctgatctgca ttttcagaag aggacaatca attgaaacta agtaggggtt 1300  
tcttcttttg gcaagacttg tactctctca cctggcctgt ttcatttatt 1350  
tgtattatct gcctgggtccc tgaggcgtct gggctctctcc tctcccttgc 1400  
aggtttgggt ttgaagctga ggaactacaa agttgatgat ttctttttta 1450  
tctttatgcc tgcaatttta cctagctacc actaggtgga tagtaaattt 1500  
atacttatgt ttccctcaaa aaaaaaaaaa aa 1532

<210> 151  
<211> 226  
<212> PRT  
<213> Homo sapiens

<400> 151  
Met Glu Thr Val Val Ile Val Ala Ile Gly Val Leu Ala Thr Ile  
1 5 10 15  
Phe Leu Ala Ser Phe Ala Ala Leu Val Leu Val Cys Arg Gln Arg  
20 25 30  
Tyr Cys Arg Pro Arg Asp Leu Leu Gln Arg Tyr Asp Ser Lys Pro

35					40					45				
Ile	Val	Asp	Leu	Ile	Gly	Ala	Met	Glu	Thr	Gln	Ser	Glu	Pro	Ser
				50					55					60
Glu	Leu	Glu	Leu	Asp	Asp	Val	Val	Ile	Thr	Asn	Pro	His	Ile	Glu
				65					70					75
Ala	Ile	Leu	Glu	Asn	Glu	Asp	Trp	Ile	Glu	Asp	Ala	Ser	Gly	Leu
				80					85					90
Met	Ser	His	Cys	Ile	Ala	Ile	Leu	Lys	Ile	Cys	His	Thr	Leu	Thr
				95					100					105
Glu	Lys	Leu	Val	Ala	Met	Thr	Met	Gly	Ser	Gly	Ala	Lys	Met	Lys
				110					115					120
Thr	Ser	Ala	Ser	Val	Ser	Asp	Ile	Ile	Val	Val	Ala	Lys	Arg	Ile
				125					130					135
Ser	Pro	Arg	Val	Asp	Asp	Val	Val	Lys	Ser	Met	Tyr	Pro	Pro	Leu
				140					145					150
Asp	Pro	Lys	Leu	Leu	Asp	Ala	Arg	Thr	Thr	Ala	Leu	Leu	Leu	Ser
				155					160					165
Val	Ser	His	Leu	Val	Leu	Val	Thr	Arg	Asn	Ala	Cys	His	Leu	Thr
				170					175					180
Gly	Gly	Leu	Asp	Trp	Ile	Asp	Gln	Ser	Leu	Ser	Ala	Ala	Glu	Glu
				185					190					195
His	Leu	Glu	Val	Leu	Arg	Glu	Ala	Ala	Leu	Ala	Ser	Glu	Pro	Asp
				200					205					210
Lys	Gly	Leu	Pro	Gly	Pro	Glu	Gly	Phe	Leu	Gln	Glu	Gln	Ser	Ala
				215					220					225

Ile

<210> 152  
 <211> 1027  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 1017, 1020  
 <223> unknown base

<400> 152  
 gcttcatttc tcccgaactca gcttcccacc ctgggctttc cgaggtgctt 50  
 tcgccgctgt cccacact gcagccatga tctccttaac ggacacgcag 100  
 aaaattggaa tgggattaac aggatttgga gtgtttttcc tgttctttgg 150  
 aatgattctc ttttttgaca aagcactact ggctattgga aatgttttat 200  
 ttgtagccgg cttggctttt gtaattgggt tagaaagaac attcagattc 250  
 ttcttccaaa aacataaaat gaaagctaca gggttttttc tgggtggtgt 300

attttagtagtc cttatttggtt ggcctttgat aggcatgatac ttcgaaattt 350  
 atggatttttt tctcttggttc aggggcttct ttcctgtcgt tgttggcttt 400  
 attagaagag tgccagtcct tggatccctc ctaaatttac ctggaattag 450  
 atcatttgta gataaagttg gagaaagcaa caatatggta taacaacaag 500  
 tgaatttgaa gactcattta aaatattgtg ttatttataa agtcatttga 550  
 agaatattca gcacaaaatt aaattacatg aaatagcttg taatgttctt 600  
 tacaggagtt taaaacgtat agcctacaaa gtaccagcag caaattagca 650  
 aagaagcagt gaaaacaggc ttctactcaa gtgaactaag aagaagtcag 700  
 caagcaaact gagagaggtg aaatccatgt taatgatgct taagaaactc 750  
 ttgaaggcta tttgtgttgt ttttccacaa tgtgcgaaac tcagccatcc 800  
 ttagagaact gtggtgcctg tttcttttct ttttattttg aaggctcagg 850  
 agcatccata ggcatttgct ttttagaagt gtccactgca atggcaaaaa 900  
 tatttccagt tgcactgtat ctctggaagt gatgcatgaa ttcgattgga 950  
 ttgtgtcatt ttaaagtatt aaaaccaagg aaacccaat tttgatgtat 1000  
 ggattacttt tttttgngcn cagggcc 1027

<210> 153  
 <211> 138  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> N-myristoylation Sites  
 <222> 11-16, 51-56 and 116-121  
 <223> N-myristoylation Sites.

<220>  
 <221> Transmembrane domains  
 <222> 12-30, 33-52, 69-89 and 93-109  
 <223> Transmembrane domains

<220>  
 <221> Aminoacyl-transfer RNA Synthetases.  
 <222> 49-59  
 <223> Aminoacyl-transfer RNA synthetases class-II protein.

<400> 153  
 Met Ile Ser Leu Thr Asp Thr Gln Lys Ile Gly Met Gly Leu Thr  
 1 5 10 15  
 Gly Phe Gly Val Phe Phe Leu Phe Phe Gly Met Ile Leu Phe Phe  
 20 25 30  
 Asp Lys Ala Leu Leu Ala Ile Gly Asn Val Leu Phe Val Ala Gly  
 35 40 45  
 Leu Ala Phe Val Ile Gly Leu Glu Arg Thr Phe Arg Phe Phe Phe  
 50 55 60



Gln	Lys	His	Lys	Met	Lys	Ala	Thr	Gly	Phe	Phe	Leu	Gly	Gly	Val
				65					70					75
Phe	Val	Val	Leu	Ile	Gly	Trp	Pro	Leu	Ile	Gly	Met	Ile	Phe	Glu
				80					85					90
Ile	Tyr	Gly	Phe	Phe	Leu	Leu	Phe	Arg	Gly	Phe	Phe	Pro	Val	Val
				95					100					105
Val	Gly	Phe	Ile	Arg	Arg	Val	Pro	Val	Leu	Gly	Ser	Leu	Leu	Asn
				110					115					120
Leu	Pro	Gly	Ile	Arg	Ser	Phe	Val	Asp	Lys	Val	Gly	Glu	Ser	Asn
				125					130					135

Asn Met Val

<210> 154  
 <211> 405  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 66  
 <223> unknown base

<400> 154  
 gaagacgtgg cggctctcgc ctgggctggt tcccggcttc atttctcccg 50  
 actcagcttc ccaccntggg ctttcogagg tgctttcgcc gctgtcccca 100  
 ccactgcagc catgatctcc ttaacggaca cgcagaaaat tggaatggga 150  
 ttaaccggat ttggagtgtt tttcctgttc tttggaatga ttctcttttt 200  
 tgacaaagca ctactggcta ttggaaatgt tttatttgta gccggcttgg 250  
 cttttgtaat tggtttagaa agaacattca gattcttctt ccaaaaacat 300  
 aaaatgaaag ctacagggtt ttttctgggt ggtgtatttg tagtccttat 350  
 tggttggcct ttgataggca tgatcttcga aatttatgga tttttctctt 400  
 tgttc 405

<210> 155  
 <211> 1781  
 <212> DNA  
 <213> Homo sapiens

<400> 155  
 ggcacgaggg tgaaccagc cggctccatc tcagcttctg gtttctaagt 50  
 ccatgtgcc aaggctgcc ggaaggagac gccttcctga gtcctggatc 100  
 tttcttctt ctggaaatct ttgactgtgg gtagttattt atttctgaat 150  
 aagagcgtcc acgcatcatg gacctcgcg gactgctgaa gtctcagttc 200  
 ctgtgccacc tggctcttct ctacgtcttt attgcctcag ggctaatacat 250

caacaccatt cagctcttca ctctctctct ctggcccatt aacaagcagc 300  
 tcttccggaa gatcaactgc agactgtcct attgcatctc aagccagctg 350  
 gtgatgctgc tggagtgggtg gtcggggcacg gaatgcacca tcttcacgga 400  
 cccgcgcgcc tacctcaagt atgggaagga aaatgccatc gtgggttctca 450  
 accacaagtt tgaaattgac tttctgtgtg gctggagcct gtccgaacgc 500  
 tttgggctgt tagggggctc caaggtcctg gccaaagaaag agctggccta 550  
 tgtcccaatt atcggctgga tgtggtactt caccgagatg gtcttctgtt 600  
 cgcgcaagtg ggagcaggat cgcaagacgg ttgccaccag tttgcagcac 650  
 ctccgggact accccgagaa gtattttttc ctgattcaact gtgagggcac 700  
 acggttcacg gagaagaagc atgagatcag catgcagggtg gcccgggcca 750  
 aggggctgcc tcgcctcaag catcacctgt tgccacgaac caagggcttc 800  
 gccatcaccg tgaggagctt gagaaatgta gtttcagctg tatatgactg 850  
 tacactcaat ttcagaaata atgaaaatcc aacactgctg ggagtcctaa 900  
 acggaaagaa ataccatgca gatttgtatg ttaggaggat cccactggaa 950  
 gacatccctg aagacgatga cgagtgtctg gcctggctgc acaagctcta 1000  
 ccaggagaag gatgcctttc aggaggagta ctacaggacg ggcaccttcc 1050  
 cagagacgcc catggtgccc ccccgggggc cctggaccct cgtgaactgg 1100  
 ctgttttggg cctcgtgtgt gctctaccct ttcttccagt tcttggtcag 1150  
 catgatcagg agcgggtctt ccctgacgct ggccagcttc atcctcgtct 1200  
 tctttgtggc ctccgtggga gttcgatgga tgattggtgt gacggaaatt 1250  
 gacaagggct ctgcctacgg caactctgac agcaagcaga aactgaatga 1300  
 ctgactcagg gaggtgtcac catccgaagg gaaccttggg gaactggtgg 1350  
 cctctgcata tcctccttag tgggacacgg tgacaaaggc tgggtgagcc 1400  
 cctgctgggc acggcggaag tcacgacctc tccagccagg gagtctggtc 1450  
 tcaaggccgg atggggagga agatgttttg taatcttttt ttcccatgt 1500  
 gcttttagtg gcttttggtt tctttttgtg cgagtgtgtg tgagaatggc 1550  
 tgtgtggtga gtgtgaactt tgttctgtga tcatagaaag ggtatttttag 1600  
 gctgcagggg agggcagggc tggggaccga aggggacaag ttcccttttc 1650  
 atcctttggg gctgagtttt ctgtaaccct tggttgccag agataaagt 1700  
 aaaagtgtt taggtgagat gactaaatta tgcctccaag aaaaaaaaaat 1750  
 taaagtgtt ttctgggtca aaaaaaaaaa a 1781

<210> 156

<211> 378  
 <212> PRT  
 <213> Homo sapiens

<400> 156

Met	Asp	Leu	Ala	Gly	Leu	Leu	Lys	Ser	Gln	Phe	Leu	Cys	His	Leu	1	5	10	15
Val	Phe	Cys	Tyr	Val	Phe	Ile	Ala	Ser	Gly	Leu	Ile	Ile	Asn	Thr	20	25	30	
Ile	Gln	Leu	Phe	Thr	Leu	Leu	Leu	Trp	Pro	Ile	Asn	Lys	Gln	Leu	35	40	45	
Phe	Arg	Lys	Ile	Asn	Cys	Arg	Leu	Ser	Tyr	Cys	Ile	Ser	Ser	Gln	50	55	60	
Leu	Val	Met	Leu	Leu	Glu	Trp	Trp	Ser	Gly	Thr	Glu	Cys	Thr	Ile	65	70	75	
Phe	Thr	Asp	Pro	Arg	Ala	Tyr	Leu	Lys	Tyr	Gly	Lys	Glu	Asn	Ala	80	85	90	
Ile	Val	Val	Leu	Asn	His	Lys	Phe	Glu	Ile	Asp	Phe	Leu	Cys	Gly	95	100	105	
Trp	Ser	Leu	Ser	Glu	Arg	Phe	Gly	Leu	Leu	Gly	Gly	Ser	Lys	Val	110	115	120	
Leu	Ala	Lys	Lys	Glu	Leu	Ala	Tyr	Val	Pro	Ile	Ile	Gly	Trp	Met	125	130	135	
Trp	Tyr	Phe	Thr	Glu	Met	Val	Phe	Cys	Ser	Arg	Lys	Trp	Glu	Gln	140	145	150	
Asp	Arg	Lys	Thr	Val	Ala	Thr	Ser	Leu	Gln	His	Leu	Arg	Asp	Tyr	155	160	165	
Pro	Glu	Lys	Tyr	Phe	Phe	Leu	Ile	His	Cys	Glu	Gly	Thr	Arg	Phe	170	175	180	
Thr	Glu	Lys	Lys	His	Glu	Ile	Ser	Met	Gln	Val	Ala	Arg	Ala	Lys	185	190	195	
Gly	Leu	Pro	Arg	Leu	Lys	His	His	Leu	Leu	Pro	Arg	Thr	Lys	Gly	200	205	210	
Phe	Ala	Ile	Thr	Val	Arg	Ser	Leu	Arg	Asn	Val	Val	Ser	Ala	Val	215	220	225	
Tyr	Asp	Cys	Thr	Leu	Asn	Phe	Arg	Asn	Asn	Glu	Asn	Pro	Thr	Leu	230	235	240	
Leu	Gly	Val	Leu	Asn	Gly	Lys	Lys	Tyr	His	Ala	Asp	Leu	Tyr	Val	245	250	255	
Arg	Arg	Ile	Pro	Leu	Glu	Asp	Ile	Pro	Glu	Asp	Asp	Asp	Glu	Cys	260	265	270	
Ser	Ala	Trp	Leu	His	Lys	Leu	Tyr	Gln	Glu	Lys	Asp	Ala	Phe	Gln	275	280	285	
Glu	Glu	Tyr	Tyr	Arg	Thr	Gly	Thr	Phe	Pro	Glu	Thr	Pro	Met	Val				

290	295	300
Pro Pro Arg Arg Pro Trp Thr Leu Val Asn Trp Leu Phe Trp Ala		
305	310	315
Ser Leu Val Leu Tyr Pro Phe Phe Gln Phe Leu Val Ser Met Ile		
320	325	330
Arg Ser Gly Ser Ser Leu Thr Leu Ala Ser Phe Ile Leu Val Phe		
335	340	345
Phe Val Ala Ser Val Gly Val Arg Trp Met Ile Gly Val Thr Glu		
350	355	360
Ile Asp Lys Gly Ser Ala Tyr Gly Asn Ser Asp Ser Lys Gln Lys		
365	370	375

Leu Asn Asp

<210> 157

<211> 1849

<212> DNA

<213> Homo sapiens

<400> 157

```

ctgaggcggc ggtagcatgg agggggagag tacgtcggcg gtgctctcgg 50
gctttgtgct cggcgcactc gctttccagc acctcaacac ggactcggac 100
acggaagggt ttcttcttgg ggaagtaaaa ggtgaagcca agaacagcat 150
tactgattcc caaatggatg atgttgaagt tgtttataca attgacattc 200
agaaatatat tccatgctat cagcttttta gcttttataa ttcttcaggc 250
gaagtaaatg agcaagcact gaagaaaata ttatcaaata tcaaaaagaa 300
tgtggtaggt tggtaacaaat tccgtcgtca ttcagatcag atcatgacgt 350
ttagagagag gctgcttcac aaaaacttgc aggagcattt ttcaaaccac 400
gaccttggtt ttctgctatt aacaccaagt ataataacag aaagctgctc 450
tactcatcga ctggaacatt ccttatataa acctcaaaaa ggactttttc 500
acagggtacc ttagtggtt gccaatctgg gcatgtctga acaactgggt 550
tataaaactg tatcaggttc ctgtatgtcc actggtttta gccgagcagt 600
acaaacacac agctctaaat tttttgaaga agatggatcc ttaaaggagg 650
tacataagat aaatgaaatg tatgcttcat tacaagagga attaaagagt 700
atatgcaaaa aagtggaaga cagtgaacaa gcagtagata aactagtaaa 750
ggatgtaaac agattaaaac gagaaattga gaaaaggaga ggagcacaga 800
ttcaggcagc aagagagaag aacatccaaa aagaccctca ggagaacatt 850
tttctttgtc aggcatcag gacctttttt ccaaattctg aatttcttca 900
ttcatgtgtt atgtctttta aaaatagaca tgtttctaaa agtagctgta 950

```

actacaacca ccatctcgat gtagtagaca atctgacctt aatggtagaa 1000  
 cactactgaca ttccctgaagc tagtocagct agtacaccac aaatcattaa 1050  
 gcataaaagcc ttagacttag atgacagatg gcaattcaag agatctcggg 1100  
 tgtagatac acaagacaaa cgatctaaag caaatactgg tagtagtaac 1150  
 caagataaag catccaaaat gagcagccca gaaacagatg aagaaattga 1200  
 aaagatgaag gggttttggtg aatattcacg gtctcctaca ttttgatcct 1250  
 ttttaacctta caaggagatt tttttatttg gctgatgggt aaagccaaac 1300  
 atttctattg tttttactat gttgagctac ttgcagtaag ttcatttggt 1350  
 tttactatgt tcacctgttt gcagtaatac acagataact cttagtgcac 1400  
 ttacttcaca aagtactttt tcaaacatca gatgctttta tttccaaacc 1450  
 tttttttcac ctttactaa gttgttgagg ggaaggctta cacagacaca 1500  
 ttcttttagaa ttggaaaagt gagaccaggc acagtggctc acacctgtaa 1550  
 tcccagcaat tagggaagac aagtcaggag gattgattga agctaggagt 1600  
 tagagaccag cctgggcaac gtattgagac catgtctatt aaaaaataaa 1650  
 atggaaaagc aagaatagcc ttattttcaa aatatggaaa gaaatttata 1700  
 tgaaaattta tctgagtcac taaaattctc cttaagtgat acttttttag 1750  
 aagtacatta tggctagagt tgccagataa aatgctggat atcatgcaat 1800  
 aaatttgcaa aacatcatct aaaattttaaa aaaaaaaaaa aaaaaaaaaa 1849

<210> 158  
 <211> 409  
 <212> PRT  
 <213> Homo sapiens

<400> 158  
 Met Glu Gly Glu Ser Thr Ser Ala Val Leu Ser Gly Phe Val Leu  
 1 5 10 15  
 Gly Ala Leu Ala Phe Gln His Leu Asn Thr Asp Ser Asp Thr Glu  
 20 25 30  
 Gly Phe Leu Leu Gly Glu Val Lys Gly Glu Ala Lys Asn Ser Ile  
 35 40 45  
 Thr Asp Ser Gln Met Asp Asp Val Glu Val Val Tyr Thr Ile Asp  
 50 55 60  
 Ile Gln Lys Tyr Ile Pro Cys Tyr Gln Leu Phe Ser Phe Tyr Asn  
 65 70 75  
 Ser Ser Gly Glu Val Asn Glu Gln Ala Leu Lys Lys Ile Leu Ser  
 80 85 90  
 Asn Val Lys Lys Asn Val Val Gly Trp Tyr Lys Phe Arg Arg His  
 95 100 105

Ser Asp Gln Ile	Met Thr Phe Arg Glu	Arg Leu Leu His Lys	Asn
110	115		120
Leu Gln Glu His	Phe Ser Asn Gln Asp	Leu Val Phe Leu Leu	Leu
125	130		135
Thr Pro Ser Ile	Ile Thr Glu Ser Cys	Ser Thr His Arg Leu	Glu
140	145		150
His Ser Leu Tyr	Lys Pro Gln Lys Gly	Leu Phe His Arg Val	Pro
155	160		165
Leu Val Val Ala	Asn Leu Gly Met Ser	Glu Gln Leu Gly Tyr	Lys
170	175		180
Thr Val Ser Gly	Ser Cys Met Ser Thr	Gly Phe Ser Arg Ala	Val
185	190		195
Gln Thr His Ser	Ser Lys Phe Phe Glu	Glu Asp Gly Ser Leu	Lys
200	205		210
Glu Val His Lys	Ile Asn Glu Met Tyr	Ala Ser Leu Gln Glu	Glu
215	220		225
Leu Lys Ser Ile	Cys Lys Lys Val Glu	Asp Ser Glu Gln Ala	Val
230	235		240
Asp Lys Leu Val	Lys Asp Val Asn Arg	Leu Lys Arg Glu Ile	Glu
245	250		255
Lys Arg Arg Gly	Ala Gln Ile Gln Ala	Ala Arg Glu Lys Asn	Ile
260	265		270
Gln Lys Asp Pro	Gln Glu Asn Ile Phe	Leu Cys Gln Ala Leu	Arg
275	280		285
Thr Phe Phe Pro	Asn Ser Glu Phe Leu	His Ser Cys Val Met	Ser
290	295		300
Leu Lys Asn Arg	His Val Ser Lys Ser	Ser Cys Asn Tyr Asn	His
305	310		315
His Leu Asp Val	Val Asp Asn Leu Thr	Leu Met Val Glu His	Thr
320	325		330
Asp Ile Pro Glu	Ala Ser Pro Ala Ser	Thr Pro Gln Ile Ile	Lys
335	340		345
His Lys Ala Leu	Asp Leu Asp Asp Arg	Trp Gln Phe Lys Arg	Ser
350	355		360
Arg Leu Leu Asp	Thr Gln Asp Lys Arg	Ser Lys Ala Asn Thr	Gly
365	370		375
Ser Ser Asn Gln	Asp Lys Ala Ser Lys	Met Ser Ser Pro Glu	Thr
380	385		390
Asp Glu Glu Ile	Glu Lys Met Lys Gly	Phe Gly Glu Tyr Ser	Arg
395	400		405
Ser Pro Thr Phe			

<210> 159  
<211> 2651  
<212> DNA  
<213> Homo sapiens

<400> 159  
ggcacagccg cgcgggcggag ggcagagtca gccgagccga gtccagccgg 50  
acgagcggac cagcgcaggg cagcccaagc agcgcgcagc gaacgcccgc 100  
cgccgcccac accctctgcg gtccccgcgg cgctgccac cttccctcc 150  
ttcccccggt ccccgctcg cgggccagtc agcttgccgg gttogetgcc 200  
ccgcgaaacc ccgaggtcac cagcccgcg cttctgttcc ctgggcccgc 250  
cgccgcctcc acgccctcct tctcccttgg ccggcgccct ggcaccgggg 300  
accgttgccct gacgcgaggg ccagctctac ttttcgcccc gcgtctcctc 350  
cgctgctcg cctcttccac caactccaac tccttctccc tccagctcca 400  
ctcgctagtc cccgactccg ccagccctcg gcccgctgcc gtagcgccgc 450  
ttcccgctcg gtcccaaagg tgggaacgcg tccgccccgg ccgcacccat 500  
ggcacgggtc ggcttgcccg cgcttctctg caccctggca gtgctcagcg 550  
ccgcgctgct ggctgccgag ctcaagtcca aaagtgtctc ggaagtgcga 600  
cgtctttacg tgtccaaagg cttcaacaag aacgatgccc cctccacga 650  
gatcaacggg gatcatttga agatctgtcc ccagggttct acctgctgct 700  
ctcaagagat ggaggagaag tacagcctgc aaagtaaaga tgatttcaaa 750  
agtgtggtca gcgaacagtg caatcatttg caagctgtct ttgcttcacg 800  
ttacaagaag tttgatgaat tcttcaaaga actacttgaa aatgcagaga 850  
aatccctgaa tgatatgttt gtgaagacat atggccattt atacatgcaa 900  
aattctgagc tatttaaaga tctcttctga gagttgaaac gttactacgt 950  
ggtgggaaat gtgaacctgg aagaaatgct aaatgacttc tgggctcgcc 1000  
tcctggagcg gatgttccgc ctggtgaact ccagtagca ctttacagat 1050  
gagtatctgg aatgtgtgag caagtatacg gagcagctga agcccttcgg 1100  
agatgtccct cgcaaatgga agctccaggt tactcgtgct tttgtagcag 1150  
cccgtacttt cgctcaaggg ttagcggttg cgggagatgt cgtgagcaag 1200  
gtctccgtgg taaaccccac agcccagtg acccatgccc tgttgaagat 1250  
gatctactgc tcccactgcc ggggtctcgt gactgtgaag ccatgttaca 1300  
actactgctc aaacatcatg agaggctgtt tggccaacca aggggatctc 1350  
gattttgaat ggaacaattt catagatgct atgctgatgg tggcagagag 1400  
gctagagggt cctttcaaca ttgaatcggg catggatccc atcgatgtga 1450

agattttctga tgctattatg aacatgcagg ataatagtgt tcaagtgtct 1500  
 cagaagggttt tccagggatg tggaccccc aagcccctcc cagctggacg 1550  
 aattttctcgt tccatctctg aaagtgcctt cagtgtctcg ttcagaccac 1600  
 atcaccccgga ggaacgcccc accacagcag ctggcactag tttggaccga 1650  
 ctgggttactg atgtcaagga gaaactgaaa caggccaaga aattctgggtc 1700  
 ctcccttccg agcaacgttt gcaacgatga gaggatggct gcaggaaaacg 1750  
 gcaatgagga tgactgttgg aatgggaaag gcaaaagcag gtacctgttt 1800  
 gcagtgcag gaaatggatt agccaaccag ggcaacaacc cagaggtcca 1850  
 ggttgacacc agcaaaccag acatactgat cttctgtcaa atcatggctc 1900  
 ttcgagtgat gaccagcaag atgaagaatg catacaatgg gaacgacgtg 1950  
 gactttctttg atatcagtga tgaaagtagt ggagaaggaa gtggaagtgg 2000  
 ctgtgagtat cagcagtgcc cttcagagtt tgactacaat gccactgacc 2050  
 atgctgggaa gagtgccaat gagaaagccg acagtgtctg tgtccgtcct 2100  
 ggggcacagg cctacctcct cactgtcttc tgcattctgt tcttggttat 2150  
 gcagagagag tggagataat tctcaaactc tgagaaaaag tgttcatcaa 2200  
 aaagttaaaa ggcaccagtt atcacttttc taccatccta gtgactttgc 2250  
 tttttaaatg aatggacaac aatgtacagt ttttactatg tggccactgg 2300  
 ttttaagaagt gctgactttg ttttctcatt cagttttggg aggaaaaggg 2350  
 actgtgcatt gagttggttc ctgctcccc aaaccatgtt aaacgtggct 2400  
 aacagtgtag gtacagaact atagttagtt gtgcatttgt gattttatca 2450  
 ctctattatt tgtttgtatg tttttttctc atttcgtttg tgggtttttt 2500  
 tttccaactg tgatctcgcc ttgtttctta caagcaaacc agggtcctt 2550  
 cttggcacgt aacatgtacg tatttctgaa atattaaata gctgtacaga 2600  
 agcaggtttt atttatcatg ttatcttatt aaaagaaaaa gcccaaaaag 2650  
 c 2651

<210> 160  
 <211> 556  
 <212> PRT  
 <213> Homo sapiens

<400> 160  
 Met Ala Arg Phe Gly Leu Pro Ala Leu Leu Cys Thr Leu Ala Val  
 1 5 10 15  
 Leu Ser Ala Ala Leu Leu Ala Ala Glu Leu Lys Ser Lys Ser Cys  
 20 25 30  
 Ser Glu Val Arg Arg Leu Tyr Val Ser Lys Gly Phe Asn Lys Asn



35										40					45				
Asp	Ala	Pro	Leu	His	Glu	Ile	Asn	Gly	Asp	His	Leu	Lys	Ile	Cys					
				50					55					60					
Pro	Gln	Gly	Ser	Thr	Cys	Cys	Ser	Gln	Glu	Met	Glu	Glu	Lys	Tyr					
				65					70					75					
Ser	Leu	Gln	Ser	Lys	Asp	Asp	Phe	Lys	Ser	Val	Val	Ser	Glu	Gln					
				80					85					90					
Cys	Asn	His	Leu	Gln	Ala	Val	Phe	Ala	Ser	Arg	Tyr	Lys	Lys	Phe					
				95					100					105					
Asp	Glu	Phe	Phe	Lys	Glu	Leu	Leu	Glu	Asn	Ala	Glu	Lys	Ser	Leu					
				110					115					120					
Asn	Asp	Met	Phe	Val	Lys	Thr	Tyr	Gly	His	Leu	Tyr	Met	Gln	Asn					
				125					130					135					
Ser	Glu	Leu	Phe	Lys	Asp	Leu	Phe	Val	Glu	Leu	Lys	Arg	Tyr	Tyr					
				140					145					150					
Val	Val	Gly	Asn	Val	Asn	Leu	Glu	Glu	Met	Leu	Asn	Asp	Phe	Trp					
				155					160					165					
Ala	Arg	Leu	Leu	Glu	Arg	Met	Phe	Arg	Leu	Val	Asn	Ser	Gln	Tyr					
				170					175					180					
His	Phe	Thr	Asp	Glu	Tyr	Leu	Glu	Cys	Val	Ser	Lys	Tyr	Thr	Glu					
				185					190					195					
Gln	Leu	Lys	Pro	Phe	Gly	Asp	Val	Pro	Arg	Lys	Leu	Lys	Leu	Gln					
				200					205					210					
Val	Thr	Arg	Ala	Phe	Val	Ala	Ala	Arg	Thr	Phe	Ala	Gln	Gly	Leu					
				215					220					225					
Ala	Val	Ala	Gly	Asp	Val	Val	Ser	Lys	Val	Ser	Val	Val	Asn	Pro					
				230					235					240					
Thr	Ala	Gln	Cys	Thr	His	Ala	Leu	Leu	Lys	Met	Ile	Tyr	Cys	Ser					
				245					250					255					
His	Cys	Arg	Gly	Leu	Val	Thr	Val	Lys	Pro	Cys	Tyr	Asn	Tyr	Cys					
				260					265					270					
Ser	Asn	Ile	Met	Arg	Gly	Cys	Leu	Ala	Asn	Gln	Gly	Asp	Leu	Asp					
				275					280					285					
Phe	Glu	Trp	Asn	Asn	Phe	Ile	Asp	Ala	Met	Leu	Met	Val	Ala	Glu					
				290					295					300					
Arg	Leu	Glu	Gly	Pro	Phe	Asn	Ile	Glu	Ser	Val	Met	Asp	Pro	Ile					
				305					310					315					
Asp	Val	Lys	Ile	Ser	Asp	Ala	Ile	Met	Asn	Met	Gln	Asp	Asn	Ser					
				320					325					330					
Val	Gln	Val	Ser	Gln	Lys	Val	Phe	Gln	Gly	Cys	Gly	Pro	Pro	Lys					
				335					340					345					
Pro	Leu	Pro	Ala	Gly	Arg	Ile	Ser	Arg	Ser	Ile	Ser	Glu	Ser	Ala					

350					355					360				
Phe	Ser	Ala	Arg	Phe	Arg	Pro	His	His	Pro	Glu	Glu	Arg	Pro	Thr
				365					370					375
Thr	Ala	Ala	Gly	Thr	Ser	Leu	Asp	Arg	Leu	Val	Thr	Asp	Val	Lys
				380					385					390
Glu	Lys	Leu	Lys	Gln	Ala	Lys	Lys	Phe	Trp	Ser	Ser	Leu	Pro	Ser
				395					400					405
Asn	Val	Cys	Asn	Asp	Glu	Arg	Met	Ala	Ala	Gly	Asn	Gly	Asn	Glu
				410					415					420
Asp	Asp	Cys	Trp	Asn	Gly	Lys	Gly	Lys	Ser	Arg	Tyr	Leu	Phe	Ala
				425					430					435
Val	Thr	Gly	Asn	Gly	Leu	Ala	Asn	Gln	Gly	Asn	Asn	Pro	Glu	Val
				440					445					450
Gln	Val	Asp	Thr	Ser	Lys	Pro	Asp	Ile	Leu	Ile	Leu	Arg	Gln	Ile
				455					460					465
Met	Ala	Leu	Arg	Val	Met	Thr	Ser	Lys	Met	Lys	Asn	Ala	Tyr	Asn
				470					475					480
Gly	Asn	Asp	Val	Asp	Phe	Phe	Asp	Ile	Ser	Asp	Glu	Ser	Ser	Gly
				485					490					495
Glu	Gly	Ser	Gly	Ser	Gly	Cys	Glu	Tyr	Gln	Gln	Cys	Pro	Ser	Glu
				500					505					510
Phe	Asp	Tyr	Asn	Ala	Thr	Asp	His	Ala	Gly	Lys	Ser	Ala	Asn	Glu
				515					520					525
Lys	Ala	Asp	Ser	Ala	Gly	Val	Arg	Pro	Gly	Ala	Gln	Ala	Tyr	Leu
				530					535					540
Leu	Thr	Val	Phe	Cys	Ile	Leu	Phe	Leu	Val	Met	Gln	Arg	Glu	Trp
				545					550					555

Arg

<210> 161

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 161

ctccgtggta aaccccacag ccc 23

<210> 162

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 162  
tcacatcgat gggatccatg accg 24

<210> 163  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 163  
ggtctcgtga ctgtgaagcc atgttacaac tactgctcaa acatcatgag 50

<210> 164  
<211> 870  
<212> DNA  
<213> Homo sapiens

<400> 164  
ctcgccctca aatgggaacg ctggcctggg actaaagcat agaccaccag 50  
gctgagtatc ctgacctgag tcatccccag ggatcaggag cctccagcag 100  
ggaaccttcc attatattct tcaagcaact tacagctgca cgcacagttg 150  
cgatgaaagt tctaattctt tccctcctcc tgttgctgcc actaatgctg 200  
atgtccatgg tctctagcag cctgaatcca ggggtcgcca gaggccacag 250  
ggaccgaggc caggcttcta ggagatggct ccaggaaggc ggccaagaat 300  
gtgagtgcaa agattggttc ctgagagccc cgagaagaaa attcatgaca 350  
gtgtctgggc tgccaaagaa gcagtgcccc tgtgatcatt tcaagggcaa 400  
tgtgaagaaa acaagacacc aaaggcacca cagaaagcca aacaagcatt 450  
ccagagcctg ccagcaattt ctcaaacaat gtcagctaag aagctttgct 500  
ctgcctttgt aggagctctg agcgcccact cttccaatta aacatttctca 550  
gccaagaaga cagtgagcac acctaccaga cactcttctt ctcccacctc 600  
actctcccac tgtacccacc cctaaatcat tccagtgtc tcaaaaagca 650  
tgtttttcaa gatcattttg tttgttgctc tctctagtgt cttcttctct 700  
cgtcagtctt agcctgtgcc ctccccttac ccaggcttag gcttaattac 750  
ctgaaagatt ccaggaaaact gtagcttctt agctagtgtc atttaacctt 800  
aatgcaatc aggaaagtag caaacagaag tcaataaata tttttaaatg 850  
tcaaaaaaaaa aaaaaaaaaa 870

<210> 165  
<211> 119  
<212> PRT  
<213> Homo sapiens

<400> 165  
Met Lys Val Leu Ile Ser Ser Leu Leu Leu Leu Pro Leu Met

1	5	10	15
Leu Met Ser Met Val Ser Ser Ser Leu Asn Pro Gly Val Ala Arg			
20	25	30	
Gly His Arg Asp Arg Gly Gln Ala Ser Arg Arg Trp Leu Gln Glu			
35	40	45	
Gly Gly Gln Glu Cys Glu Cys Lys Asp Trp Phe Leu Arg Ala Pro			
50	55	60	
Arg Arg Lys Phe Met Thr Val Ser Gly Leu Pro Lys Lys Gln Cys			
65	70	75	
Pro Cys Asp His Phe Lys Gly Asn Val Lys Lys Thr Arg His Gln			
80	85	90	
Arg His His Arg Lys Pro Asn Lys His Ser Arg Ala Cys Gln Gln			
95	100	105	
Phe Leu Lys Gln Cys Gln Leu Arg Ser Phe Ala Leu Pro Leu			
110	115		

<210> 166  
 <211> 551  
 <212> DNA  
 <213> Homo sapiens

<400> 166  
 aatggctgtc ttagtacttc gcctgacagt tgtcctggga ctgcttgtct 50  
 tattcctgac ctgctatgca gacgacaaac cagacaagcc agacgacaag 100  
 ccagacgact cgggcaaaga cccaaagcca gacttcccca aattcctaag 150  
 cctcctgggc acagagatca ttgagaatgc agtcgagttc atcctccgct 200  
 ccatgtccag gagcacagga tttatggaat ttgatgataa tgaaggaaaa 250  
 cattcatcaa agtgacatcc tcaggacaca cccatgtggc tcctggacaa 300  
 tccaagagca gccaaatcct gcttttccag tttggctcca caagtcctcc 350  
 aggacagagc cctcaaagca actcccaacg agttctcagg attcaggctc 400  
 tggcttcaac caaacagaac tcattttgaa caccctgact gcatttttgc 450  
 ttttagaaaag ttagaataaa tatggcgctt tgggatcaca tagttgatgg 500  
 agaggaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 550  
 a 551

<210> 167  
 <211> 87  
 <212> PRT  
 <213> Homo sapiens

<400> 167  
 Met Ala Val Leu Val Leu Arg Leu Thr Val Val Leu Gly Leu Leu  
 1 5 10 15  
 Val Leu Phe Leu Thr Cys Tyr Ala Asp Asp Lys Pro Asp Lys Pro

	20		25		30
Asp Asp Lys Pro	Asp Asp Ser Gly Lys	Asp Pro Lys Pro Asp Phe			
	35	40			45
Pro Lys Phe Leu Ser	Leu Leu Gly Thr Glu Ile Ile Glu Asn Ala				
	50	55			60
Val Glu Phe Ile Leu Arg Ser Met Ser Arg Ser Thr Gly Phe Met					
	65	70			75
Glu Phe Asp Asp Asn Glu Gly Lys His Ser Ser Lys					
	80	85			

<210> 168  
 <211> 1371  
 <212> DNA  
 <213> Homo sapiens

<400> 168  
 ggacgccagc gcctgcagag gctgagcagg gaaaaagcca gtgccccagc 50  
 ggaagcacag ctgagagctg gtctgccatg gacatcctgg tcccactcct 100  
 gcagctgctg gtgctgcttc ttaccctgcc cctgcacctc atggctctgc 150  
 tgggctgctg gcagcccctg tgcaaaagct acttccccta cctgatggcc 200  
 gtgctgactc ccaagagcaa ccgcaagatg gagagcaaga aacgggagct 250  
 cttcagccag ataaaggggc ttacaggagc ctccgggaaa gtggccctac 300  
 tggagctggg ctgcggaacc ggagccaact ttcagttcta cccaccgggc 350  
 tgcaggggtca cctgcctaga cccaaatccc cactttgaga agttcctgac 400  
 aaagagcatg gctgagaaca ggcacctcca atatgagcgg tttgtggtgg 450  
 ctcttgaga ggacatgaga cagctggctg atggctccat ggatgtggtg 500  
 gtctgcactc tgggtgctgtg ctctgtgcag agcccaagga aggtcctgca 550  
 ggaggtccgg agagtactga gaccgggagg tgtgctcttt ttctgggagc 600  
 atgtggcaga accatatgga agctgggcct tcatgtggca gcaagttttc 650  
 gagcccacct ggaaacacat tggggatggc tgctgcctca ccagagagac 700  
 ctggaaggat cttgagaacg cccagttctc cgaaatccaa atggaacgac 750  
 agccccctcc cttgaagtgg ctacctgttg ggccccacat catgggaaag 800  
 gctgtcaaac aatctttccc aagctccaag gcactcattt gctccttccc 850  
 cagcctccaa ttagaacaag ccaccaccca gcctatctat cttccactga 900  
 gagggaccta gcagaatgag agaagacatt catgtaccac ctactagtcc 950  
 ctctctcccc aacctctgcc agggcaatct ctaacttcaa tccgccttc 1000  
 gacagtgaag aagctctact tctacgtga cccagggagg aaacactagg 1050  
 accctgttgt atcctcaact gcaagtttct ggactagtct cccaacgttt 1100

gcctcccaat gttgtccctt tccttgcgtt ccattggtaaa gctcctctcg 1150  
 ctttcctcct gaggtacac ccattgcgtct ctaggaactg gtcacaaaag 1200  
 tcatggtgcc tgcattccctg ccaagccccc ctgaccctct cccccacta 1250  
 ccaccttctt cctgagctgg gggcaccagg gagaatcaga gatgctgggg 1300  
 atgccagagc aagactcaaa gaggcagagg ttttgttctc aaatattttt 1350  
 taataaatag acgaaaccac g 1371

<210> 169  
 <211> 277  
 <212> PRT  
 <213> Homo sapiens

<400> 169  
 Met Asp Ile Leu Val Pro Leu Leu Gln Leu Leu Val Leu Leu Leu  
 1 5 10 15  
 Thr Leu Pro Leu His Leu Met Ala Leu Leu Gly Cys Trp Gln Pro  
 20 25 30  
 Leu Cys Lys Ser Tyr Phe Pro Tyr Leu Met Ala Val Leu Thr Pro  
 35 40 45  
 Lys Ser Asn Arg Lys Met Glu Ser Lys Lys Arg Glu Leu Phe Ser  
 50 55 60  
 Gln Ile Lys Gly Leu Thr Gly Ala Ser Gly Lys Val Ala Leu Leu  
 65 70 75  
 Glu Leu Gly Cys Gly Thr Gly Ala Asn Phe Gln Phe Tyr Pro Pro  
 80 85 90  
 Gly Cys Arg Val Thr Cys Leu Asp Pro Asn Pro His Phe Glu Lys  
 95 100 105  
 Phe Leu Thr Lys Ser Met Ala Glu Asn Arg His Leu Gln Tyr Glu  
 110 115 120  
 Arg Phe Val Val Ala Pro Gly Glu Asp Met Arg Gln Leu Ala Asp  
 125 130 135  
 Gly Ser Met Asp Val Val Val Cys Thr Leu Val Leu Cys Ser Val  
 140 145 150  
 Gln Ser Pro Arg Lys Val Leu Gln Glu Val Arg Arg Val Leu Arg  
 155 160 165  
 Pro Gly Gly Val Leu Phe Phe Trp Glu His Val Ala Glu Pro Tyr  
 170 175 180  
 Gly Ser Trp Ala Phe Met Trp Gln Gln Val Phe Glu Pro Thr Trp  
 185 190 195  
 Lys His Ile Gly Asp Gly Cys Cys Leu Thr Arg Glu Thr Trp Lys  
 200 205 210  
 Asp Leu Glu Asn Ala Gln Phe Ser Glu Ile Gln Met Glu Arg Gln  
 215 220 225

Pro Pro Pro Leu Lys Trp Leu Pro Val Gly Pro His Ile Met Gly  
230 235 240

Lys Ala Val Lys Gln Ser Phe Pro Ser Ser Lys Ala Leu Ile Cys  
245 250 255

Ser Phe Pro Ser Leu Gln Leu Glu Gln Ala Thr His Gln Pro Ile  
260 265 270

Tyr Leu Pro Leu Arg Gly Thr  
275

<210> 170  
<211> 1621  
<212> DNA  
<213> Homo sapiens

<400> 170  
gtgggattta tttgagtgca agatcgtttt ctcaagtgtg gtggaagttg 50  
cctcatcgca ggcagatggt ggggctttgt ccgaacagct cccctctgcc 100  
agcttctgta gataagggtt aaaaactaat atttatatga cagaagaaaa 150  
agatgtcatt ccgtaaagta aacatcatca tcttggtcct ggctgttgct 200  
ctcttcttac tggttttgca ccataacttc ctcaagtga gcagtttggt 250  
aaggaatgag gttacagatt caggaattgt agggcctcaa cctatagact 300  
ttgtcccaaa tgctctccga catgcagtag atgggagaca agaggagatt 350  
cctgtgggtca tcgctgcac tgaagacagg cttggggggg ccattgcagc 400  
tataaacagc attcagcaca aactcgcctc caatgtgatt ttctacattg 450  
ttactctcaa caatacagca gaccatctcc ggtcctggct caacagtgat 500  
tccctgaaaa gcatcagata caaaattgtc aattttgacc ctaaactttt 550  
ggaaggaaaa gtaaaggagg atcctgacca gggggaatcc atgaaacctt 600  
taacctttgc aaggttctac ttgccaattc tggttccag cgcaaagaag 650  
gccatataca tggatgatga tgtaattgtg caaggtgata ttcttgccct 700  
ttacaataca gcactgaagc caggacatgc agctgcattt tcagaagatt 750  
gtgattcagc ctctactaaa gttgtcatcc gtggagcagg aaaccagtac 800  
aattacattg gctatcttga ctataaaaag gaaagaattc gtaagctttc 850  
catgaaagcc agcatttgct catttaatcc tggagttttt gttgcaaacc 900  
tgacggaatg gaaacgacag aatataacta accaactgga aaaatggatg 950  
aaactcaatg tagaagaggg actgtatagc agaaccctgg ctggtagcat 1000  
cacaacacct cctctgctta tcgtatttta tcaacagcac tctaccatcg 1050  
atcctatgtg gaatgtccgc caccttgggt ccagtgtctg aaaacgatat 1100  
tcacctcagt ttgtaaaggc tgccaagtta ctccattgga atggacattt 1150

gaagccatgg ggaaggactg cttcatatac tgatgtttgg gaaaaatggt 1200  
atattccaga cccaacaggc aaattcaacc taatccgaag atataccgag 1250  
atctcaaaca taaagtgaaa cagaatttga actgtaagca agcattttctc 1300  
aggaagtcct ggaagatagc atgcatggga agtaacagtt gctaggcttc 1350  
aatgcctatc ggtagcaagc catggaaaaa gatgtgtcag ctaggtaaag 1400  
atgacaaact gccctgtctg gcagtcagct tcccagacag actatagact 1450  
ataaatatgt ctccatctgc cttaccaagt gttttcttac tacaatgctg 1500  
aatgactgga aagaagaact gatatggcta gttcagctag ctggtacaga 1550  
taattcaaaa ctgctgttgg ttttaatttt gtaacctgtg gcctgatctg 1600  
taaataaaaac ttacattttt c 1621

<210> 171

<211> 371

<212> PRT

<213> Homo sapiens

<400> 171

Met	Ser	Phe	Arg	Lys	Val	Asn	Ile	Ile	Ile	Leu	Val	Leu	Ala	Val	1	5	10	15
Ala	Leu	Phe	Leu	Leu	Val	Leu	His	His	Asn	Phe	Leu	Ser	Leu	Ser	20	25	30	
Ser	Leu	Leu	Arg	Asn	Glu	Val	Thr	Asp	Ser	Gly	Ile	Val	Gly	Pro	35	40	45	
Gln	Pro	Ile	Asp	Phe	Val	Pro	Asn	Ala	Leu	Arg	His	Ala	Val	Asp	50	55	60	
Gly	Arg	Gln	Glu	Glu	Ile	Pro	Val	Val	Ile	Ala	Ala	Ser	Glu	Asp	65	70	75	
Arg	Leu	Gly	Gly	Ala	Ile	Ala	Ala	Ile	Asn	Ser	Ile	Gln	His	Asn	80	85	90	
Thr	Arg	Ser	Asn	Val	Ile	Phe	Tyr	Ile	Val	Thr	Leu	Asn	Asn	Thr	95	100	105	
Ala	Asp	His	Leu	Arg	Ser	Trp	Leu	Asn	Ser	Asp	Ser	Leu	Lys	Ser	110	115	120	
Ile	Arg	Tyr	Lys	Ile	Val	Asn	Phe	Asp	Pro	Lys	Leu	Leu	Glu	Gly	125	130	135	
Lys	Val	Lys	Glu	Asp	Pro	Asp	Gln	Gly	Glu	Ser	Met	Lys	Pro	Leu	140	145	150	
Thr	Phe	Ala	Arg	Phe	Tyr	Leu	Pro	Ile	Leu	Val	Pro	Ser	Ala	Lys	155	160	165	
Lys	Ala	Ile	Tyr	Met	Asp	Asp	Asp	Val	Ile	Val	Gln	Gly	Asp	Ile	170	175	180	
Leu	Ala	Leu	Tyr	Asn	Thr	Ala	Leu	Lys	Pro	Gly	His	Ala	Ala	Ala				



185					190					195				
Phe	Ser	Glu	Asp	Cys	Asp	Ser	Ala	Ser	Thr	Lys	Val	Val	Ile	Arg
				200					205					210
Gly	Ala	Gly	Asn	Gln	Tyr	Asn	Tyr	Ile	Gly	Tyr	Leu	Asp	Tyr	Lys
				215					220					225
Lys	Glu	Arg	Ile	Arg	Lys	Leu	Ser	Met	Lys	Ala	Ser	Thr	Cys	Ser
				230					235					240
Phe	Asn	Pro	Gly	Val	Phe	Val	Ala	Asn	Leu	Thr	Glu	Trp	Lys	Arg
				245					250					255
Gln	Asn	Ile	Thr	Asn	Gln	Leu	Glu	Lys	Trp	Met	Lys	Leu	Asn	Val
				260					265					270
Glu	Glu	Gly	Leu	Tyr	Ser	Arg	Thr	Leu	Ala	Gly	Ser	Ile	Thr	Thr
				275					280					285
Pro	Pro	Leu	Leu	Ile	Val	Phe	Tyr	Gln	Gln	His	Ser	Thr	Ile	Asp
				290					295					300
Pro	Met	Trp	Asn	Val	Arg	His	Leu	Gly	Ser	Ser	Ala	Gly	Lys	Arg
				305					310					315
Tyr	Ser	Pro	Gln	Phe	Val	Lys	Ala	Ala	Lys	Leu	Leu	His	Trp	Asn
				320					325					330
Gly	His	Leu	Lys	Pro	Trp	Gly	Arg	Thr	Ala	Ser	Tyr	Thr	Asp	Val
				335					340					345
Trp	Glu	Lys	Trp	Tyr	Ile	Pro	Asp	Pro	Thr	Gly	Lys	Phe	Asn	Leu
				350					355					360
Ile	Arg	Arg	Tyr	Thr	Glu	Ile	Ser	Asn	Ile	Lys				
				365					370					

<210> 172  
 <211> 585  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 71, 76, 86, 91, 162, 220, 269, 281  
 <223> unknown base

<400> 172  
 tgggtttttgc cccataaatt ccctcagctt gagcagtttg ttaaggaatg 50  
 aggttacaga ttcaggaatt ntaggncttc aacctntaga ntttgtccca 100  
 aatgtttctcc gacatgcagt agatgggaga caagaggaga ttcctgtggt 150  
 catcgctgca tntgaagaca ggcttggggg ggccattgca gctataaaca 200  
 gcattcagca caacaactcgn tccaatgtga ttttctacat tgttactctc 250  
 aacaatacag cagaccatnt ccggtcctgg ntcaacagtg attccctgaa 300  
 aagcatcaga tacaaaattg tcaattttga ccctaaactt ttggaaggaa 350

aagtaaagga ggatcctgac cagggggaat ccatgaaacc tttaaccttt 400  
gcaaggttct acttgccaat tctggttccc agcgcaaaga aggccatata 450  
catggatgat gatgtaattg tgcaaggtga tattcttgcc ctttacaata 500  
cagcactgaa gccaggacat gcagctgcat tttcagaaga ttgtgattca 550  
gcctctacta aagttgtcat ccgtggagca ggaaa 585

<210> 173  
<211> 1866  
<212> DNA  
<213> Homo sapiens

<400> 173  
cgacgtctta gcggttaccg ctgcgggctg gctgggcgta gtggggctgc 50  
gcggctgcca cggagctaga gggcaagtgt gctcggccca gcgtgcaggg 100  
aacgcgggcg gccagacaac gggctgggct ccggggcctg cggcgcgggc 150  
gctgagctgg cagggcggggt cggggcgcggt gctgcatcog catctcctcc 200  
atcgcctgca gtaagggcgg ccgcggcgag cctttgaggg gaacgacttg 250  
tcggagccct aaccaggggt gtctctgagc ctggtgggat ccccgagcgg 300  
tcacatcact ttccgatcac ttcaaagtgg ttaaaaaacta atatttatat 350  
gacagaagaa aaagatgtca ttccgtaaag taaacatcat catcttggtc 400  
ctgggctgtt gctctcttct tactggtttt gcaccataac ttcctcagct 450  
tgaggcagtt tgttaaggaa tgagggttaca gattcaggaa ttgtagggcc 500  
tcaacctata ggactttgtc ccaaagtctc tccgacatgc agtagatggg 550  
agacaagagg agattcctgt ggtcatcgct gcacttgaag acaggcttgg 600  
gggggccatt gcagctataa acagcattca gcacaacact cgctccaatg 650  
tgattttcta cattgttact ctcaacaata cagcagacca tctccgggtc 700  
tgggctcaac agtgattccc tgaaaagcat cagatacaaa attgtcaatt 750  
ttgaccctaa acttttgga ggaaggttaa aggaggatcc tgaccagggg 800  
gaatccatga aacctttaac ctttgcaagg ttctacttgc caattctggg 850  
ttcccagcgc aaagaaggcc atatacatgg atgatgatgt aattgtgcaa 900  
ggtgatattc ttgcccttta caatacagca ctgaagccag gacatgcagc 950  
tgcattttca gaagattgtg attcagcctc tactaaagt gtcacccgtg 1000  
gagcaggaaa ccagtacaat tacattggct atcttgacta taaaaaggaa 1050  
agaattcgta agctttccat gaaagccagc acttgctcat ttaatcctgg 1100  
agtttttgtt gcaaacctga cggaatggaa acgacagaat ataactaacc 1150  
aactggaaaa atggatgaaa ctcaatgtag aagagggact gtatagcaga 1200

accctggctg gtagcatcac aacacctcct ctgottatcg tattttatca 1250  
 acagcactct accatcgatc ctatgtggaa tgtccggccac cttgggtcca 1300  
 gtgctggaaa acgatattca cctcagtttg taaaggctgc caagttactc 1350  
 cattggaatg gacatttgaa gccatgggga aggactgctt catatactga 1400  
 tgtttgggga aaaatggtat attccagacc caacaggcaa attcaaccta 1450  
 atccgaagat ataccgagat ctcaaacata aagtgaacaa gaatttgaac 1500  
 tgtaagcaag cattttctcag gaagtcctgg aagatagcat gcgtgggaag 1550  
 taacagttgc taggcttcaa tgccatcgg tagcaagcca tggaaaaaga 1600  
 tgtgtcagct aggtaaagat gacaaactgc cctgtctggc agtcagcttc 1650  
 ccagacagac tatagactat aaatatgtct ccatctgcct taccaagtgt 1700  
 tttcttacta caatgctgaa tgactggaaa gaagaactga tatggctagt 1750  
 tcagctagct ggtacagata attcaaaact gctgttggtt ttaattttgt 1800  
 aacctgtggc ctgatctgta aataaaactt acatttttca ataggtaaaa 1850  
 aaaaaaaaaa aaaaaa 1866

<210> 174  
 <211> 823  
 <212> DNA  
 <213> Homo sapiens

<400> 174  
 ctgcaggtag acatctccac tgcccaggaa tcaactgagcg tgcagacagc 50  
 acagcctcct ctgaaggccg gccataccag agtcctgcct cggcatgggc 100  
 ctcaccattg aggagctcc actgtctgtg ctggtctgag ggtgctgcct 150  
 gtcattggggg cagccatctc ccagggggcc ctcatcgcca tcgtctgcaa 200  
 cggctctctg ggcttcttgc tgctgctgct ctgggtcctc ctctgctggg 250  
 cctgccattc tcgtctgccg acgttgactc tctctctgaa tccagtccca 300  
 actccagccc tggccctgt cctgagaagg cccaccacc ccagaagccc 350  
 agccatgaag gcagctacct gctgcagccc tgaaggcccc tggcctagcc 400  
 tggagcccag gacctaagtc cacctcacct agagcctgga attaggatcc 450  
 cagagttcag ccagcctggg gtccagaact caagagtccg cctgcttgga 500  
 gctggacca gcgggccaga gtctagccag cttggctcca ataggagctc 550  
 agtggcccta aggagatggg cctgggggtg gggcttatga gttggtgcta 600  
 gagccagggc catctggact atgctccatc ccaagggcca agggtcaggg 650  
 gccgggtcca ctctttccct aggetgagca cctctaggcc ctctaggttg 700  
 gggaagcaaa ctggaacca tggcaataat aggaggggtgt ccaggctggg 750

ccccccccct ggctctccca gtgtttgctg gataataaat ggaactatgg 800

ctctaaaaaaa aaaaaaaaaa aaa 823

<210> 175

<211> 87

<212> PRT

<213> Homo sapiens

<400> 175

Met Gly Ala Ala Ile Ser Gln Gly Ala Leu Ile Ala Ile Val Cys  
1 5 10 15

Asn Gly Leu Val Gly Phe Leu Leu Leu Leu Leu Trp Val Ile Leu  
20 25 30

Cys Trp Ala Cys His Ser Arg Leu Pro Thr Leu Thr Leu Ser Leu  
35 40 45

Asn Pro Val Pro Thr Pro Ala Leu Ala Pro Val Leu Arg Arg Pro  
50 55 60

His His Pro Arg Ser Pro Ala Met Lys Ala Ala Thr Cys Cys Ser  
65 70 75

Pro Glu Gly Pro Trp Pro Ser Leu Glu Pro Arg Thr  
80 85

<210> 176

<211> 1660

<212> DNA

<213> Homo sapiens

<400> 176

gtttgaattc cttcaactat acccacagtc caaaagcaga ctactgtgt 50  
cccaggctac cagttcctcc aagcaagtca tttccottat ttaaccgatg 100  
tgtccctcaa acacctgagt gctactccct atttgcatct gttttgataa 150  
atgatgttga caccctccac cgaattctaa gtggaatcat gtcgggaaga 200  
gatacaatcc ttggcctgtg tatcctcgca ttagccttgt ctttgccat 250  
gatgtttacc ttcagattca tcaccacct tctggttcac attttcattt 300  
cattggttat tttgggattg ttgtttgtct gcggtgtttt atggtggctg 350  
tattatgact ataccaacga cctcagcata gaattggaca cagaaaggga 400  
aaatatgaag tgcgtgctgg ggtttgctat cgtatccaca ggcacacgg 450  
cagtgtgtgt cgtcttgatt tttgtttctca gaaagagaat aaaattgaca 500  
gttgagcttt tccaaatcac aaataaagcc atcagcagtg ctcccttcct 550  
gctgttccag ccactgtgga catttgccat cctcattttc ttctgggtcc 600  
tctgggtggc tgtgtgtgtg agcctgggaa ctgcaggagc tgcccaggtt 650  
atggaaggcg gccaaagtga atataagccc ctttcgggca ttcggtacat 700  
gtggtcgtac catttaattg gcctcatctg gactagttaa ttcattcctt 750

cgtgccagca aatgactata gctggggcag tggttacttg ttatttcaac 800  
 agaagtaaaa atgatcctcc tgatcatccc atcctttcgt ctctctccat 850  
 tctcttcttc taccatcaag gaaccgttgt gaaaggggtca tttttaatct 900  
 ctgtggtgag gattccgaga atcattgtca tgtacatgca aaacgcactg 950  
 aaagaacagc agcatggtgc attgtccagg tacctgttcc gatgctgcta 1000  
 ctgctgtttc tgggtgtottg acaaatacct gctccatctc aaccagaatg 1050  
 catatactac aactgctatt aatgggacag atttctgtac atcagcaaaa 1100  
 gatgcattca aaatcttgtc caagaactca agtcacttta catctattaa 1150  
 ctgcttttga gaattcataa tttttctagg aaagggtgta gtggtgtggt 1200  
 tcaactgtttt tggaggactc atgggcttta actacaatcg ggcattccag 1250  
 gtgtgggcag tccctctgtt attggtagct ttttttgcct acttagtagc 1300  
 ccatagtttt ttatctgtgt ttgaaactgt gctggatgca cttttcctgt 1350  
 gttttgctgt tgatctggaa acaaatgatg gatcgtcaga aaagccctac 1400  
 tttatggatc aagaatttct gagtttcgta aaaaggagca acaaattaaa 1450  
 caatgcaagg gcacagcagg acaagcactc attaaggaat gaggagggaa 1500  
 cagaactcca ggccattgtg agatagatac ccatttaggt atctgtacct 1550  
 ggaaaacatt tccttctaag agccatttac agaatagaag atgagaccac 1600  
 tagagaaaag ttagtgaatt tttttttaa agacctaata aaccctattc 1650  
 ttctctcaaaa 1660

<210> 177  
 <211> 445  
 <212> PRT  
 <213> Homo sapiens

<400> 177  
 Met Ser Gly Arg Asp Thr Ile Leu Gly Leu Cys Ile Leu Ala Leu  
 1 5 10 15  
 Ala Leu Ser Leu Ala Met Met Phe Thr Phe Arg Phe Ile Thr Thr  
 20 25 30  
 Leu Leu Val His Ile Phe Ile Ser Leu Val Ile Leu Gly Leu Leu  
 35 40 45  
 Phe Val Cys Gly Val Leu Trp Trp Leu Tyr Tyr Asp Tyr Thr Asn  
 50 55 60  
 Asp Leu Ser Ile Glu Leu Asp Thr Glu Arg Glu Asn Met Lys Cys  
 65 70 75  
 Val Leu Gly Phe Ala Ile Val Ser Thr Gly Ile Thr Ala Val Leu  
 80 85 90  
 Leu Val Leu Ile Phe Val Leu Arg Lys Arg Ile Lys Leu Thr Val

95										100					105				
Glu	Leu	Phe	Gln	Ile	Thr	Asn	Lys	Ala	Ile	Ser	Ser	Ala	Pro	Phe					
				110					115					120					
Leu	Leu	Phe	Gln	Pro	Leu	Trp	Thr	Phe	Ala	Ile	Leu	Ile	Phe	Phe					
				125					130					135					
Trp	Val	Leu	Trp	Val	Ala	Val	Leu	Leu	Ser	Leu	Gly	Thr	Ala	Gly					
				140					145					150					
Ala	Ala	Gln	Val	Met	Glu	Gly	Gly	Gln	Val	Glu	Tyr	Lys	Pro	Leu					
				155					160					165					
Ser	Gly	Ile	Arg	Tyr	Met	Trp	Ser	Tyr	His	Leu	Ile	Gly	Leu	Ile					
				170					175					180					
Trp	Thr	Ser	Glu	Phe	Ile	Leu	Ala	Cys	Gln	Gln	Met	Thr	Ile	Ala					
				185					190					195					
Gly	Ala	Val	Val	Thr	Cys	Tyr	Phe	Asn	Arg	Ser	Lys	Asn	Asp	Pro					
				200					205					210					
Pro	Asp	His	Pro	Ile	Leu	Ser	Ser	Leu	Ser	Ile	Leu	Phe	Phe	Tyr					
				215					220					225					
His	Gln	Gly	Thr	Val	Val	Lys	Gly	Ser	Phe	Leu	Ile	Ser	Val	Val					
				230					235					240					
Arg	Ile	Pro	Arg	Ile	Ile	Val	Met	Tyr	Met	Gln	Asn	Ala	Leu	Lys					
				245					250					255					
Glu	Gln	Gln	His	Gly	Ala	Leu	Ser	Arg	Tyr	Leu	Phe	Arg	Cys	Cys					
				260					265					270					
Tyr	Cys	Cys	Phe	Trp	Cys	Leu	Asp	Lys	Tyr	Leu	Leu	His	Leu	Asn					
				275					280					285					
Gln	Asn	Ala	Tyr	Thr	Thr	Thr	Ala	Ile	Asn	Gly	Thr	Asp	Phe	Cys					
				290					295					300					
Thr	Ser	Ala	Lys	Asp	Ala	Phe	Lys	Ile	Leu	Ser	Lys	Asn	Ser	Ser					
				305					310					315					
His	Phe	Thr	Ser	Ile	Asn	Cys	Phe	Gly	Asp	Phe	Ile	Ile	Phe	Leu					
				320					325					330					
Gly	Lys	Val	Leu	Val	Val	Cys	Phe	Thr	Val	Phe	Gly	Gly	Leu	Met					
				335					340					345					
Ala	Phe	Asn	Tyr	Asn	Arg	Ala	Phe	Gln	Val	Trp	Ala	Val	Pro	Leu					
				350					355					360					
Leu	Leu	Val	Ala	Phe	Phe	Ala	Tyr	Leu	Val	Ala	His	Ser	Phe	Leu					
				365					370					375					
Ser	Val	Phe	Glu	Thr	Val	Leu	Asp	Ala	Leu	Phe	Leu	Cys	Phe	Ala					
				380					385					390					
Val	Asp	Leu	Glu	Thr	Asn	Asp	Gly	Ser	Ser	Glu	Lys	Pro	Tyr	Phe					
				395					400					405					
Met	Asp	Gln	Glu	Phe	Leu	Ser	Phe	Val	Lys	Arg	Ser	Asn	Lys	Leu					

410	415	420
Asn Asn Ala Arg Ala Gln Gln Asp Lys His Ser Leu Arg Asn Glu		
425	430	435
Glu Gly Thr Glu Leu Gln Ala Ile Val Arg		
440	445	

<210> 178  
 <211> 2773  
 <212> DNA  
 <213> Homo sapiens

<400> 178  
 gttcgattag ctctcttgag aagaagagaa aagggttcttg gacctctccc 50  
 tgtttcttcc ttagaataat ttgtatggga tttgtgatgc aggaaagcct 100  
 aagggaataa gaatattcat tctgtgtggt gaaaattttt tgaaaaaaa 150  
 attgccttct tcaaacaagg gtgtcattct gatatttatg aggactgttg 200  
 ttctcaactat gaaggcatct gttattgaaa tgttccttgt tttgctggtg 250  
 actggagtac attcaaaca agaaacggca aagaagatta aaaggcccaa 300  
 gttcactgtg cctcagatca actgcgatgt caaagccgga aagatcatcg 350  
 atcctgagtt cattgtgaaa tgtccagcag gatgccaaga ccccaaatac 400  
 catgtttatg gcactgacgt gtatgcatcc tactccagtg tgtgtggcgc 450  
 tgccgtacac agtgggtgtgc ttgataattc aggagggaaa atacttgttc 500  
 ggaagggtgc tggacagtct gggtacaaag ggagttattc caacgggtgtc 550  
 caatcgttat ccctaccacg atggagagaa tcctttatcg tcttagaaag 600  
 taaacccaaa aagggtgtaa cctaccatc agctcttaca tactcatcat 650  
 cgaaaagtcc agctgcccaa gcaggtgaga ccacaaaagc ctatcagagg 700  
 ccacctatc cagggaacaac tgcacagccg gtcactctga tgcagcttct 750  
 ggctgtcact gtagctgtgg ccacccccac caccttgcca aggccatccc 800  
 cttctgctgc ttctaccacc agcatcccca gaccacaatc agtgggccac 850  
 aggagccagg agatggatct ctggtccact gccacctaca caagcagcca 900  
 aaacaggccc agagctgatc caggtatcca aaggcaagat ccttcaggag 950  
 ctgccttcca gaaacctgtt ggagcggatg tcagcctggg acttgttcca 1000  
 aaagaagaat tgagcacaca gtctttggag ccagtatccc tgggagatcc 1050  
 aaactgcaaa attgacttgt cgtttttaat tgatgggagc accagcattg 1100  
 gcaaacggcg attccgaatc cagaagcagc tcctggetga tgttgcccaa 1150  
 gctcttgaca ttggccctgc cgggtccactg atgggtgttg tccagtatgg 1200  
 agacaaccct gctactcact ttaacctcaa gacacacag aattctcgag 1250

atctgaagac agccatagag aaaattactc agagaggagg acttttcta 1300  
 gtaggtcggg ccatctcctt tgtgaccaag aacttctttt ccaaagccaa 1350  
 tggaaacaga agcggggctc ccaatgtggt ggtggtgatg gtggatggct 1400  
 ggcccacgga caaagtggag gaggcttcaa gacttgcgag agagtcagga 1450  
 atcaacattt tcttcatcac cattgaaggt gctgctgaaa atgagaagca 1500  
 gtatgtggtg gagcccaact ttgcaaaca ggccgtgtgc agaacaacg 1550  
 gcttctactc gctccacgtg cagagctggt ttggcctcca caagaccctg 1600  
 cagcctctgg tgaagcgggt ctgcgacact gaccgcctgg cctgcagcaa 1650  
 gacctgcttg aactcggctg acattggctt cgtcatcgac ggctccagca 1700  
 gtgtggggac gggcaacttc cgcaccgtcc tccagtttgt gaccaacctc 1750  
 accaaagagt ttgagatttc cgacacggac acgcgcatcg gggccgtgca 1800  
 gtacacctac gaacagcggc tggagtttgg gttcgacaag tacagcagca 1850  
 agcctgacat cctcaacgcc atcaagaggg tgggctactg gagtgggtggc 1900  
 accagcacgg gggctgcat caacttcgcc ctggagcagc tcttcaagaa 1950  
 gtccaagccc aacaagagga agttaatgat cctcatcacc gacgggaggt 2000  
 cctacgacga cgtccggatc ccagccatgg ctgccatct gaagggagt 2050  
 atcacctatg cgataggcgt tgcctgggct gcccagagg agctagaagt 2100  
 cattgccact caccocgcca gagaccactc cttctttgtg gacgagtttg 2150  
 acaacctcca tcagtatgtc cccaggatca tocagaacat ttgtacagag 2200  
 ttcaactcac agcctcggaa ctgaattcag agcaggcaga gcaccagcaa 2250  
 gtgctgcttt actaactgac gtgttgacc accccaccgc ttaatggggc 2300  
 acgcacggtg catcaagtct tgggcagggc atggagaaac aaatgtcttg 2350  
 ttattattct ttgccatcat gctttttcat attocaaaac ttggagttac 2400  
 aaagatgatc acaaacgtat agaatgagcc aaaaggctac atcatgttga 2450  
 ggggtgctgga gattttacat ttgacaatt gttttcaaaa taaatgttcg 2500  
 gaatacagtg cagcccttac gacaggctta cgtagagctt ttgtgagatt 2550  
 ttaagtgtg tatttctgat ttgaactctg taaccctcag caagtttcat 2600  
 ttttgtcatg acaatgtagg aattgctgaa ttaaatgttt agaaggatga 2650  
 aaaataaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2700  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2750  
 aaaaaaaaaa aaaaaaaaaa aag 2773

<210> 179



<211> 678  
 <212> PRT  
 <213> Homo sapiens

<400> 179

Met	Arg	Thr	Val	Val	Leu	Thr	Met	Lys	Ala	Ser	Val	Ile	Glu	Met	1	5	10	15
Phe	Leu	Val	Leu	Leu	Val	Thr	Gly	Val	His	Ser	Asn	Lys	Glu	Thr	20	25	30	
Ala	Lys	Lys	Ile	Lys	Arg	Pro	Lys	Phe	Thr	Val	Pro	Gln	Ile	Asn	35	40	45	
Cys	Asp	Val	Lys	Ala	Gly	Lys	Ile	Ile	Asp	Pro	Glu	Phe	Ile	Val	50	55	60	
Lys	Cys	Pro	Ala	Gly	Cys	Gln	Asp	Pro	Lys	Tyr	His	Val	Tyr	Gly	65	70	75	
Thr	Asp	Val	Tyr	Ala	Ser	Tyr	Ser	Ser	Val	Cys	Gly	Ala	Ala	Val	80	85	90	
His	Ser	Gly	Val	Leu	Asp	Asn	Ser	Gly	Gly	Lys	Ile	Leu	Val	Arg	95	100	105	
Lys	Val	Ala	Gly	Gln	Ser	Gly	Tyr	Lys	Gly	Ser	Tyr	Ser	Asn	Gly	110	115	120	
Val	Gln	Ser	Leu	Ser	Leu	Pro	Arg	Trp	Arg	Glu	Ser	Phe	Ile	Val	125	130	135	
Leu	Glu	Ser	Lys	Pro	Lys	Lys	Gly	Val	Thr	Tyr	Pro	Ser	Ala	Leu	140	145	150	
Thr	Tyr	Ser	Ser	Ser	Lys	Ser	Pro	Ala	Ala	Gln	Ala	Gly	Glu	Thr	155	160	165	
Thr	Lys	Ala	Tyr	Gln	Arg	Pro	Pro	Ile	Pro	Gly	Thr	Thr	Ala	Gln	170	175	180	
Pro	Val	Thr	Leu	Met	Gln	Leu	Leu	Ala	Val	Thr	Val	Ala	Val	Ala	185	190	195	
Thr	Pro	Thr	Thr	Leu	Pro	Arg	Pro	Ser	Pro	Ser	Ala	Ala	Ser	Thr	200	205	210	
Thr	Ser	Ile	Pro	Arg	Pro	Gln	Ser	Val	Gly	His	Arg	Ser	Gln	Glu	215	220	225	
Met	Asp	Leu	Trp	Ser	Thr	Ala	Thr	Tyr	Thr	Ser	Ser	Gln	Asn	Arg	230	235	240	
Pro	Arg	Ala	Asp	Pro	Gly	Ile	Gln	Arg	Gln	Asp	Pro	Ser	Gly	Ala	245	250	255	
Ala	Phe	Gln	Lys	Pro	Val	Gly	Ala	Asp	Val	Ser	Leu	Gly	Leu	Val	260	265	270	
Pro	Lys	Glu	Glu	Leu	Ser	Thr	Gln	Ser	Leu	Glu	Pro	Val	Ser	Leu	275	280	285	
Gly	Asp	Pro	Asn	Cys	Lys	Ile	Asp	Leu	Ser	Phe	Leu	Ile	Asp	Gly				

290										295					300				
Ser	Thr	Ser	Ile	Gly	Lys	Arg	Arg	Phe	Arg	Ile	Gln	Lys	Gln	Leu					
				305					310					315					
Leu	Ala	Asp	Val	Ala	Gln	Ala	Leu	Asp	Ile	Gly	Pro	Ala	Gly	Pro					
				320					325					330					
Leu	Met	Gly	Val	Val	Gln	Tyr	Gly	Asp	Asn	Pro	Ala	Thr	His	Phe					
				335					340					345					
Asn	Leu	Lys	Thr	His	Thr	Asn	Ser	Arg	Asp	Leu	Lys	Thr	Ala	Ile					
				350					355					360					
Glu	Lys	Ile	Thr	Gln	Arg	Gly	Gly	Leu	Ser	Asn	Val	Gly	Arg	Ala					
				365					370					375					
Ile	Ser	Phe	Val	Thr	Lys	Asn	Phe	Phe	Ser	Lys	Ala	Asn	Gly	Asn					
				380					385					390					
Arg	Ser	Gly	Ala	Pro	Asn	Val	Val	Val	Val	Met	Val	Asp	Gly	Trp					
				395					400					405					
Pro	Thr	Asp	Lys	Val	Glu	Glu	Ala	Ser	Arg	Leu	Ala	Arg	Glu	Ser					
				410					415					420					
Gly	Ile	Asn	Ile	Phe	Phe	Ile	Thr	Ile	Glu	Gly	Ala	Ala	Glu	Asn					
				425					430					435					
Glu	Lys	Gln	Tyr	Val	Val	Glu	Pro	Asn	Phe	Ala	Asn	Lys	Ala	Val					
				440					445					450					
Cys	Arg	Thr	Asn	Gly	Phe	Tyr	Ser	Leu	His	Val	Gln	Ser	Trp	Phe					
				455					460					465					
Gly	Leu	His	Lys	Thr	Leu	Gln	Pro	Leu	Val	Lys	Arg	Val	Cys	Asp					
				470					475					480					
Thr	Asp	Arg	Leu	Ala	Cys	Ser	Lys	Thr	Cys	Leu	Asn	Ser	Ala	Asp					
				485					490					495					
Ile	Gly	Phe	Val	Ile	Asp	Gly	Ser	Ser	Ser	Val	Gly	Thr	Gly	Asn					
				500					505					510					
Phe	Arg	Thr	Val	Leu	Gln	Phe	Val	Thr	Asn	Leu	Thr	Lys	Glu	Phe					
				515					520					525					
Glu	Ile	Ser	Asp	Thr	Asp	Thr	Arg	Ile	Gly	Ala	Val	Gln	Tyr	Thr					
				530					535					540					
Tyr	Glu	Gln	Arg	Leu	Glu	Phe	Gly	Phe	Asp	Lys	Tyr	Ser	Ser	Lys					
				545					550					555					
Pro	Asp	Ile	Leu	Asn	Ala	Ile	Lys	Arg	Val	Gly	Tyr	Trp	Ser	Gly					
				560					565					570					
Gly	Thr	Ser	Thr	Gly	Ala	Ala	Ile	Asn	Phe	Ala	Leu	Glu	Gln	Leu					
				575					580					585					
Phe	Lys	Lys	Ser	Lys	Pro	Asn	Lys	Arg	Lys	Leu	Met	Ile	Leu	Ile					
				590					595					600					
Thr	Asp	Gly	Arg	Ser	Tyr	Asp	Asp	Val	Arg	Ile	Pro	Ala	Met	Ala					

605	610	615
Ala His Leu Lys Gly Val Ile Thr Tyr	Ala Ile Gly Val Ala Trp	
620	625	630
Ala Ala Gln Glu Glu Leu Glu Val Ile	Ala Thr His Pro Ala Arg	
635	640	645
Asp His Ser Phe Phe Val Asp Glu Phe	Asp Asn Leu His Gln Tyr	
650	655	660
Val Pro Arg Ile Ile Gln Asn Ile Cys	Thr Glu Phe Asn Ser Gln	
665	670	675

Pro Arg Asn

<210> 180  
 <211> 1759  
 <212> DNA  
 <213> Homo sapiens

<400> 180  
 caggatgaac tggttgcagt ggctgctgct gctgcggggg cgctgagagg 50  
 acacgagctc tatgcctttc cggctgctca tcccgcctcg cctcctgtgc 100  
 gcgctgctgc ctacgaccca tggcgccca ggtcccgacg gctccgcgcc 150  
 agatcccgcc cactacagtt tttctctgac tctaattgat gcaactggaca 200  
 ccttgctgat tttggggaat gtctcagaat tccaaagagt ggttgaagtg 250  
 ctccaggaca gcgtggactt tgatattgat gtgaacgcct ctgtgtttga 300  
 aacaaacatt cgagtggtag gaggactcct gtctgctcat ctgctctcca 350  
 agaaggctgg ggtggaagta gaggctggat ggccctgttc cgggcctctc 400  
 ctgagaatgg ctgaggaggc ggcccgaaaa ctctcccag cctttcagac 450  
 cccactggc atgccatag gaacagtga cttacttcat ggctgaacc 500  
 caggagagac ccctgtcacc tgtacggcag ggattgggac cttcattgtt 550  
 gaatttgcca ccctgagcag cctcactggt gaccgggtgt tcgaagatgt 600  
 ggccagagtg gctttgatgc gcctctggga gagccgggtca gatatcgggc 650  
 tggtcggcaa ccacattgat gtgctcactg gcaagtgggt ggcccaggac 700  
 gcaggcatcg gggctggcgt ggactcctac tttgagtact tggtgaaagg 750  
 agccatcctg cttcaggata agaagctcat ggccatgttc cttagagtata 800  
 acaaagccat ccggaactac acccgcttcg atgactggta cctgtggggt 850  
 cagatgtaca aggggactgt gtccatgcca gtcttcagc ccttgagggc 900  
 ctactggcct ggtcttcaga gcctcattgg agacattgac aatgccatga 950  
 ggaccttcct caactactac actgtatgga agcagtttgg ggggctcccg 1000

gaattctaca acattcctca gggatacaca gtggagaagc gagagggcta 1050  
 cccacttcgg ccagaactta ttgaaagcgc aatgtacctc taccgtgccca 1100  
 cgggggatcc caccctccta gaactcggaa gagatgctgt ggaatccatt 1150  
 gaaaaaatca gcaaggtgga gtgcggattt gcaacaatca aagatctgcg 1200  
 agaccacaag ctggacaacc gcatggagtc gttcttcctg gccgagactg 1250  
 tgaaatacct ctacctcctg tttagaccaa ccaacttcat ccacaacaat 1300  
 ggggtccacct togacgcggt gatcaccccc tatggggagt gcatcctggg 1350  
 ggctgggggg tacatcttca acacagaagc tcaccccatc gaccttgccg 1400  
 ccctgcactg ctgccagagg ctgaaggaag agcagtggga ggtggaggac 1450  
 ttgatgaggg aattctactc tctcaaacgg agcaggtcga aatttcagaa 1500  
 aaacactgtt agttcggggc catgggaacc tccagcaagg ccaggaacac 1550  
 tcttctcacc agaaaacat gaccaggcaa gggagaggaa gcctgccaaa 1600  
 cagaaggtcc cacttctcag ctgccccagt cagcccttca cctccaagtt 1650  
 ggcattactg ggacaggttt tctagactc ctcataacca ctggataatt 1700  
 tttttatattt tatttttttg aggctaaact ataataaatt gcttttggct 1750  
 atcataaaa 1759

<210> 181  
 <211> 541  
 <212> PRT  
 <213> Homo sapiens

<400> 181  
 Met Pro Phe Arg Leu Leu Ile Pro Leu Gly Leu Leu Cys Ala Leu  
 1 5 10 15  
 Leu Pro Gln His His Gly Ala Pro Gly Pro Asp Gly Ser Ala Pro  
 20 25 30  
 Asp Pro Ala His Tyr Ser Phe Ser Leu Thr Leu Ile Asp Ala Leu  
 35 40 45  
 Asp Thr Leu Leu Ile Leu Gly Asn Val Ser Glu Phe Gln Arg Val  
 50 55 60  
 Val Glu Val Leu Gln Asp Ser Val Asp Phe Asp Ile Asp Val Asn  
 65 70 75  
 Ala Ser Val Phe Glu Thr Asn Ile Arg Val Val Gly Gly Leu Leu  
 80 85 90  
 Ser Ala His Leu Leu Ser Lys Lys Ala Gly Val Glu Val Glu Ala  
 95 100 105  
 Gly Trp Pro Cys Ser Gly Pro Leu Leu Arg Met Ala Glu Glu Ala  
 110 115 120  
 Ala Arg Lys Leu Leu Pro Ala Phe Gln Thr Pro Thr Gly Met Pro

	125		130		135
Tyr Gly Thr Val	Asn Leu Leu His Gly	Val Asn Pro Gly Glu Thr			
	140	145			150
Pro Val Thr Cys	Thr Ala Gly Ile Gly	Thr Phe Ile Val Glu Phe			
	155	160			165
Ala Thr Leu Ser	Ser Leu Thr Gly Asp	Pro Val Phe Glu Asp Val			
	170	175			180
Ala Arg Val Ala	Leu Met Arg Leu Trp	Glu Ser Arg Ser Asp Ile			
	185	190			195
Gly Leu Val Gly	Asn His Ile Asp Val	Leu Thr Gly Lys Trp Val			
	200	205			210
Ala Gln Asp Ala	Gly Ile Gly Ala Gly	Val Asp Ser Tyr Phe Glu			
	215	220			225
Tyr Leu Val Lys	Gly Ala Ile Leu Leu	Gln Asp Lys Lys Leu Met			
	230	235			240
Ala Met Phe Leu	Glu Tyr Asn Lys Ala	Ile Arg Asn Tyr Thr Arg			
	245	250			255
Phe Asp Asp Trp	Tyr Leu Trp Val Gln	Met Tyr Lys Gly Thr Val			
	260	265			270
Ser Met Pro Val	Phe Gln Ser Leu Glu	Ala Tyr Trp Pro Gly Leu			
	275	280			285
Gln Ser Leu Ile	Gly Asp Ile Asp Asn	Ala Met Arg Thr Phe Leu			
	290	295			300
Asn Tyr Tyr Thr	Val Trp Lys Gln Phe	Gly Gly Leu Pro Glu Phe			
	305	310			315
Tyr Asn Ile Pro	Gln Gly Tyr Thr Val	Glu Lys Arg Glu Gly Tyr			
	320	325			330
Pro Leu Arg Pro	Glu Leu Ile Glu Ser	Ala Met Tyr Leu Tyr Arg			
	335	340			345
Ala Thr Gly Asp	Pro Thr Leu Leu Glu	Leu Gly Arg Asp Ala Val			
	350	355			360
Glu Ser Ile Glu	Lys Ile Ser Lys Val	Glu Cys Gly Phe Ala Thr			
	365	370			375
Ile Lys Asp Leu	Arg Asp His Lys Leu	Asp Asn Arg Met Glu Ser			
	380	385			390
Phe Phe Leu Ala	Glu Thr Val Lys Tyr	Leu Tyr Leu Leu Phe Asp			
	395	400			405
Pro Thr Asn Phe	Ile His Asn Asn Gly	Ser Thr Phe Asp Ala Val			
	410	415			420
Ile Thr Pro Tyr	Gly Glu Cys Ile Leu	Gly Ala Gly Gly Tyr Ile			
	425	430			435
Phe Asn Thr Glu	Ala His Pro Ile Asp	Leu Ala Ala Leu His Cys			

	440		445		450
Cys Gln Arg Leu	Lys Glu Glu Gln Trp	Glu Val Glu Asp Leu	Met		
	455	460	465		
Arg Glu Phe Tyr	Ser Leu Lys Arg Ser	Arg Ser Lys Phe Gln	Lys		
	470	475	480		
Asn Thr Val Ser	Ser Gly Pro Trp Glu	Pro Pro Ala Arg Pro	Gly		
	485	490	495		
Thr Leu Phe Ser	Pro Glu Asn His Asp	Gln Ala Arg Glu Arg	Lys		
	500	505	510		
Pro Ala Lys Gln	Lys Val Pro Leu Leu	Ser Cys Pro Ser Gln	Pro		
	515	520	525		
Phe Thr Ser Lys	Leu Ala Leu Leu Gly	Gln Val Phe Leu Asp	Ser		
	530	535	540		

Ser

<210> 182  
 <211> 2056  
 <212> DNA  
 <213> Homo sapiens

<400> 182  
 aaagttacat tttctctgga actctcctag gccactccct gctgatgcaa 50  
 catctggggtt tgggcagaaa ggagggtgct tcggagcccg ccctttctga 100  
 gcttctctggg cgggctctag aacaattcag gcttcgctgc gactcagacc 150  
 tcagctccaa catatgcatt ctgaagaaag atggctgaga tggacagaat 200  
 gctttatattt ggaaagaaac aatgttctag gtcaaactga gtctacaaaa 250  
 tgcagacttt cacaatgggt ctagaagaaa tctggacaag tcttttcatg 300  
 tggtttttct acgcattgat tccatgtttg ctacacagatg aagtggccat 350  
 tctgcctgcc cctcagaacc tctctgtact ctcaaccaac atgaagcatc 400  
 tcttgatgtg gagcccagtg atcgcgcctg gagaaacagt gtactattct 450  
 gtcgaatacc agggggagta cgagagcctg tacacgagcc acatctggat 500  
 cccagcagc tgggtgctcac tcaactgaagg tcttgagtgt gatgtcactg 550  
 atgacatcac ggccactgtg ccatacaacc ttcgtgtcag ggccacattg 600  
 ggctcacaga cctcagcctg gagcatcctg aagcatccct ttaatagaaa 650  
 ctcaaccatc cttacccgac ctgggatgga gatcaccaaa gatggcttcc 700  
 acctgggttat tgagctggag gacctggggc ccagtttga gttccttgtg 750  
 gcctactgga ggagggagcc tgggtgccgag gaacatgtca aaatggtgag 800  
 gagtgggggt attccagtgc acctagaaac catggagcca ggggctgcat 850

actgtgtgaa ggcccagaca ttctgtgaagg ccattgggag gtacagcgcc 900  
 ttcagccaga cagaatgtgt ggaggtgcaa ggagaggcca tccccctggt 950  
 actggccctg tttgcctttg ttggcttcat gctgatecctt gtggtcgtgc 1000  
 cactgttctg ctggaaaatg ggccggctgc tccagtactc ctggtgcccc 1050  
 gtggtggtcc tcccagacac cttgaaaata accaattcac cccagaagtt 1100  
 aatcagctgc agaagggagg aggtggatgc ctgtgccacg gctgtgatgt 1150  
 ctctgagga actctcagg gcctggatct cataggtttg cggaagggcc 1200  
 caggtgaagc cgagaacctg gtctgcatga catggaaacc atgaggggac 1250  
 aagttgtgtt tctgttttcc gccacggaca agggatgaga gaagtaggaa 1300  
 gagcctgttg tctacaagtc tagaagcaac catcagaggc agggtggttt 1350  
 gtctaacaga aactgactg aggccttaggg gatgtgacct ctagactggg 1400  
 ggctgccact tgctggctga gcaaccctgg gaaaagtgc ttcattccctt 1450  
 cggctctaag ttttctcatc tgtaatgggg gaattaccta cacacctgct 1500  
 aaacacacac acacagagtc tctctctata tatacacacg tacacataaa 1550  
 tacaccagc acttgcaagg ctagaggga actggtgaca ctctacagtc 1600  
 tgactgattc agtgtttctg gagagcagga cataaatgta tgatgagaat 1650  
 gatcaaggac tctacacact ggggtggcttg gagagcccac tttcccagaa 1700  
 taatccttga gagaaaagga atcatgggag caatggtgtt gagttcactt 1750  
 caagcccaat gccggtgcag aggggaatgg cttagcgagc tctacagtag 1800  
 gtgacctgga ggaaggtcac agccacactg aaaatgggat gtgcatgaac 1850  
 acggaggatc catgaactac tgtaaagtgt tgacagtgtg tgcacactgc 1900  
 agacagcagg tgaaatgtat gtgtgcaatg cgacgagaat gcagaagtca 1950  
 gtaacatgtg catgtttgtt gtgctccttt tttctgttgg taaagtacag 2000  
 aattcagcaa ataaaaaggg ccaccctggc caaaagcggg aaaaaaaaaa 2050  
 aaaaaa 2056

<210> 183  
 <211> 311  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> Signal peptide  
 <222> 1-29  
 <223> Signal peptide

<220>  
 <221> N-glycosylation sites  
 <222> 40-43, 134-137

<223> N-glycosylation sites.

<220>

<221> Tissue factor proteins homology

<222> 92-119

<223> Tissue factor proteins homology

<220>

<221> Transmembrane domain

<222> 230-255

<223> Transmembrane domain

<220>

<221> Integrins alpha chain protein homology

<222> 232-262

<223> Integrins alpha chain protein homology

<400> 183

Met	Gln	Thr	Phe	Thr	Met	Val	Leu	Glu	Glu	Ile	Trp	Thr	Ser	Leu	
1				5				10						15	
Phe	Met	Trp	Phe	Phe	Tyr	Ala	Leu	Ile	Pro	Cys	Leu	Leu	Thr	Asp	
				20				25						30	
Glu	Val	Ala	Ile	Leu	Pro	Ala	Pro	Gln	Asn	Leu	Ser	Val	Leu	Ser	
				35				40						45	
Thr	Asn	Met	Lys	His	Leu	Leu	Met	Trp	Ser	Pro	Val	Ile	Ala	Pro	
				50				55						60	
Gly	Glu	Thr	Val	Tyr	Tyr	Ser	Val	Glu	Tyr	Gln	Gly	Glu	Tyr	Glu	
				65				70						75	
Ser	Leu	Tyr	Thr	Ser	His	Ile	Trp	Ile	Pro	Ser	Ser	Trp	Cys	Ser	
				80				85						90	
Leu	Thr	Glu	Gly	Pro	Glu	Cys	Asp	Val	Thr	Asp	Asp	Ile	Thr	Ala	
				95				100						105	
Thr	Val	Pro	Tyr	Asn	Leu	Arg	Val	Arg	Ala	Thr	Leu	Gly	Ser	Gln	
				110				115						120	
Thr	Ser	Ala	Trp	Ser	Ile	Leu	Lys	His	Pro	Phe	Asn	Arg	Asn	Ser	
				125				130						135	
Thr	Ile	Leu	Thr	Arg	Pro	Gly	Met	Glu	Ile	Thr	Lys	Asp	Gly	Phe	
				140				145						150	
His	Leu	Val	Ile	Glu	Leu	Glu	Asp	Leu	Gly	Pro	Gln	Phe	Glu	Phe	
				155				160						165	
Leu	Val	Ala	Tyr	Trp	Arg	Arg	Glu	Pro	Gly	Ala	Glu	Glu	His	Val	
				170				175						180	
Lys	Met	Val	Arg	Ser	Gly	Gly	Ile	Pro	Val	His	Leu	Glu	Thr	Met	
				185				190						195	
Glu	Pro	Gly	Ala	Ala	Tyr	Cys	Val	Lys	Ala	Gln	Thr	Phe	Val	Lys	
				200				205						210	
Ala	Ile	Gly	Arg	Tyr	Ser	Ala	Phe	Ser	Gln	Thr	Glu	Cys	Val	Glu	
				215				220						225	



Val	Gln	Gly	Glu	Ala	Ile	Pro	Leu	Val	Leu	Ala	Leu	Phe	Ala	Phe
				230					235					240
Val	Gly	Phe	Met	Leu	Ile	Leu	Val	Val	Val	Pro	Leu	Phe	Val	Trp
				245					250					255
Lys	Met	Gly	Arg	Leu	Leu	Gln	Tyr	Ser	Cys	Cys	Pro	Val	Val	Val
				260					265					270
Leu	Pro	Asp	Thr	Leu	Lys	Ile	Thr	Asn	Ser	Pro	Gln	Lys	Leu	Ile
				275					280					285
Ser	Cys	Arg	Arg	Glu	Glu	Val	Asp	Ala	Cys	Ala	Thr	Ala	Val	Met
				290					295					300
Ser	Pro	Glu	Glu	Leu	Leu	Arg	Ala	Trp	Ile	Ser				
				305					310					

<210> 184  
 <211> 808  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 654, 711, 748  
 <223> unknown base

<400> 184  
 tcctgctgat gcacatctgg gtttggcaaa aggaggttgc ttcgagccgc 50  
 cctttctagc ttcttgccg gctctagaac aattcaggct tcgctgcgac 100  
 tagacctcag ctccaacata tgcattctga agaaagatgg ctgagatgac 150  
 agaatgcttt attttggaaa gaaacaatgt tctaggtcaa actgagtcta 200  
 ccaaatgcag actttcacaa tggttctaga agaaatctgg acaagtcttt 250  
 tcatgtggtt tttctacgca ttgattccat gtttgctcac agatgaagtg 300  
 gccattctgc ctgcccctca gaacctctct gtactctcaa ccaacatgaa 350  
 gcatctcttg atgtggagcc cagtgatcgc gcctggagaa acagtgtact 400  
 attctgtcga ataccagggg gagtacgaga gcctgtacac gagccacatc 450  
 tggatcccca gcagctggtg ctcaactcaact gaaggctctg agtgtgatgt 500  
 cactgatgac atcacggcca ctgtgccata caacctttgt gtcagggcca 550  
 cattgggctc acagacctca gcctggagca tcctgaagca tccctttaat 600  
 agaaactcaa ccaccttac ccgacctggg atggagatca ccaaagatgg 650  
 cttncacctg gttattgagc tggaggacct ggggccccag tttgagttcc 700  
 ttgtggccta ntggaggagg ggccaacccc ttgcggcgca aggggttngc 750  
 gaacctcttg cggccgctgg ggtatctctc gagaaaagag aggcccaata 800  
 tgacctac 808

<210> 185  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 185  
aggcttcgct gcgactagac ctc 23

<210> 186  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 186  
ccaggtcggg taaggatggt tgag 24

<210> 187  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 187  
tttctacgca ttgattccat gtttgctcac agatgaagtg gccattctgc 50

<210> 188  
<211> 1227  
<212> DNA  
<213> Homo sapiens

<400> 188  
cggacgcgtg ggccgccacc tccggaacaa gccatggtgg cggcgacggt 50  
ggcagcggcg tggctgctcc tgtgggctgc ggccctgcgcg cagcaggagc 100  
aggacttcta cgacttcaag gcggtcaaca tccggggcaa actggtgtcg 150  
ctggagaagt accgcggatc ggtgtccctg gtggtgaatg tggccagcga 200  
gtgcggcttc acagaccagc actaccgagc cctgcagcag ctgcagcgag 250  
acctggggccc ccaccacttt aacgtgctcg ccttcccctg caaccagttt 300  
ggccaacagg agcctgacag caacaaggag attgagagct ttgcccgccg 350  
cacctacagt gtctcattcc ccatgtttag caagattgca gtcaccggta 400  
ctggtgccca tcttgccctc aagtacctgg ccagacttc tgggaaggag 450  
cccacctgga acttctggaa gtacctagta gcccagatg gaaaggtggt 500  
aggggcttgg gacccaactg tgtcagtgga ggaggtcaga cccagatca 550  
cagcgctcgt gaggaagctc atcctactga agcgagaaga cttataacca 600

ccgcgtctcc tctccacca cctcatcccg cccacctgtg tggggctgac 650  
 caatgcaaac tcaaattggtg cttcaaaggg agagaccac tgactctcct 700  
 tcctttactc ttatgccatt ggtcccatca ttcttgtggg ggaaaaattc 750  
 tagtattttg attatttgaa tcttacagca acaaatagga actcctggcc 800  
 aatgagagct cttgaccagt gaatcaccag ccgatacgaa cgtcttgcca 850  
 acaaaaatgt gtggcaaata gaagtatatc aagcaataat ctcccaccca 900  
 aggtttctgt aaactgggac caatgattac ctcatagggc tgttgtgagg 950  
 attaggatga aatacctgtg aaagtgccta ggcaagtcca gccaaatagg 1000  
 aggcattcaa tgaacatttt ttgcatataa accaaaaaat aacttggtat 1050  
 caataaaaaac ttgcatccaa catgaatttc cagccgatga taatccaggc 1100  
 caaaggttta gttgttgta tttcctctgt attattttct tcattacaaa 1150  
 agaaatgcaa gttcattgta acaatccaaa caatacctca cgatataaaa 1200  
 taaaaatgaa agtatcctcc tcaaaaa 1227

<210> 189  
 <211> 187  
 <212> PRT  
 <213> Homo sapiens

<400> 189  
 Met Val Ala Ala Thr Val Ala Ala Ala Trp Leu Leu Leu Trp Ala  
 1 5 10 15  
 Ala Ala Cys Ala Gln Gln Glu Gln Asp Phe Tyr Asp Phe Lys Ala  
 20 25 30  
 Val Asn Ile Arg Gly Lys Leu Val Ser Leu Glu Lys Tyr Arg Gly  
 35 40 45  
 Ser Val Ser Leu Val Val Asn Val Ala Ser Glu Cys Gly Phe Thr  
 50 55 60  
 Asp Gln His Tyr Arg Ala Leu Gln Gln Leu Gln Arg Asp Leu Gly  
 65 70 75  
 Pro His His Phe Asn Val Leu Ala Phe Pro Cys Asn Gln Phe Gly  
 80 85 90  
 Gln Gln Glu Pro Asp Ser Asn Lys Glu Ile Glu Ser Phe Ala Arg  
 95 100 105  
 Arg Thr Tyr Ser Val Ser Phe Pro Met Phe Ser Lys Ile Ala Val  
 110 115 120  
 Thr Gly Thr Gly Ala His Pro Ala Phe Lys Tyr Leu Ala Gln Thr  
 125 130 135  
 Ser Gly Lys Glu Pro Thr Trp Asn Phe Trp Lys Tyr Leu Val Ala  
 140 145 150  
 Pro Asp Gly Lys Val Val Gly Ala Trp Asp Pro Thr Val Ser Val

	155		160		165
Glu Glu Val Arg	Pro Gln Ile Thr Ala	Leu Val Arg Lys Leu	Ile		
	170	175	180		
Leu Leu Lys Arg	Glu Asp Leu				
	185				

<210> 190  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 190  
 gcaggacttc tacgacttca aggc 24

<210> 191  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 191  
 agtctgggcc aggtacttga aggc 24

<210> 192  
 <211> 50  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 192  
 caacatccgg ggcaaaactgg tgtcgctgga gaagtaccgc ggatcggtgt 50

<210> 193  
 <211> 2187  
 <212> DNA  
 <213> Homo sapiens

<400> 193  
 cggacgcgtg ggcgggcccgg gacgcagggc aaagcgagcc atggctgtct 50  
 acgtcgggat gctgcgccctg gggaggctgt gcgccgggag ctcggggggtg 100  
 ctggggggccc gggccgccct ctctcgaggt tggcaggaag ccaggttgca 150  
 ggggtgtccgc ttcctcagtt ccagagaggt ggatcgcatg gtctccacgc 200  
 ccatcgagag cctcagctac gttcaggggt gcacaaaaa gcatcttaac 250  
 agcaagactg tgggccagtg cctggagacc acagcacaga ggggtcccaga 300  
 acgagaggcc ttggctgtcc tccatgaaga cgtcaggttg acctttgccc 350  
 aactcaagga ggaggtggac aaagctgctt ctggcctcct gagcattggc 400

ctctgcaaag gtgaccggct gggcatgtgg ggacctaact cctatgcatg 450  
 ggtgctcatg cagttggcca ccgcccaggc gggcatcatt ctggtgtctg 500  
 tgaacccagc ctaccaggct atggaactgg agtatgtcct caagaagggtg 550  
 ggctgcaagg cccttgtgtt cccaagcaa ttcaagaccc agcaatacta 600  
 caacgtcctg aagcagatct gtccagaagt ggagaatgcc cagccagggg 650  
 ccttgaagag tcagaggctc ccagatctga ccacagtcac ctcggtggat 700  
 gcccctttgc cggggaccct gctcctggat gaagtgggtg cggctggcag 750  
 cacacggcag catctggacc agctccaata caaccagcag ttctgtcct 800  
 gccatgaccc catcaacatc cagttcacct cggggacaac aggcagcccc 850  
 aagggggcca ccctctccca ctacaacatt gtcaacaact ccaacatttt 900  
 aggagagcgc ctgaaactgc atgagaagac accagagcag ttgcggatga 950  
 tcttgcccaa cccctgtac cattgcctgg gttccgtggc aggcacaatg 1000  
 atgtgtctga tgtacggtgc caccctcatc ctggcctctc ccatcttcaa 1050  
 tggcaagaag gcaactggagg ccatcagcag agagagaggc accttctgt 1100  
 atggtacccc cagcatgttc gtggacattc tgaaccagcc agactttctc 1150  
 agttatgaca tctcgaccat gtgtggaggt gtcattgctg ggtccctgc 1200  
 acctccagag ttgatccgag ccatcatcaa caagataaat atgaaggacc 1250  
 tgggtggttg ttatggaacc acagagaaca gtcccgtagc attcgcgac 1300  
 ttccctgagg aactgtgga gcagaaggca gaaagcgtgg gcagaattat 1350  
 gcctcacacg gaggcccgga tcatgaacat ggaggcaggg acgctggcaa 1400  
 agctgaacac gcccggggag ctgtgcatcc gaggggtactg cgtcatgctg 1450  
 ggctactggg gtgagcctca gaagacagag gaagcagtg atcaggacaa 1500  
 gtggtatttg acaggagatg tcgccacaat gaatgagcag ggcttctgca 1550  
 agatcgtggg ccgctctaag gatatgatca tccgggggtg tgagaacatc 1600  
 taccgcgag agctcgagga cttctttcac acacaccga aggtgcagga 1650  
 agtgcaggtg gtgggagtga aggacgatcg gatgggggaa gagatttgtg 1700  
 cctgcattcg gctgaaggac ggggaggaga ccacggtgga ggagataaaa 1750  
 gctttctgca aagggaagat ctctcacttc aagattccga agtacatcgt 1800  
 gtttctcaca aactaccccc tcaccatttc aggaaagatc cagaaattca 1850  
 aacttcgaga gcagatggaa cgacatctaa atctgtgaat aaagcagcag 1900  
 gcctgtcctg gccggttggc ttgactctct cctgtcagaa tgcaacctgg 1950  
 ctttatgcac ctagatgtcc ccagcaccca gttctgagcc aggcacatca 2000

aatgtcaagg aattgactga acgaactaag agctcctgga tgggtccggg 2050  
aactcgcctg ggcacaaggt gccaaaaggc aggcagcctg cccaggccct 2100  
ccctcctgtc catccccac attccctgt ctgtccttgt gatttggcat 2150  
aaagagcttc tgttttcttt gaaaaaaaaa aaaaaaa 2187

<210> 194  
<211> 615  
<212> PRT  
<213> Homo sapiens

<400> 194

Met	Ala	Val	Tyr	Val	Gly	Met	Leu	Arg	Leu	Gly	Arg	Leu	Cys	Ala	1	5	10	15
Gly	Ser	Ser	Gly	Val	Leu	Gly	Ala	Arg	Ala	Ala	Leu	Ser	Arg	Ser	20	25	30	
Trp	Gln	Glu	Ala	Arg	Leu	Gln	Gly	Val	Arg	Phe	Leu	Ser	Ser	Arg	35	40	45	
Glu	Val	Asp	Arg	Met	Val	Ser	Thr	Pro	Ile	Gly	Gly	Leu	Ser	Tyr	50	55	60	
Val	Gln	Gly	Cys	Thr	Lys	Lys	His	Leu	Asn	Ser	Lys	Thr	Val	Gly	65	70	75	
Gln	Cys	Leu	Glu	Thr	Thr	Ala	Gln	Arg	Val	Pro	Glu	Arg	Glu	Ala	80	85	90	
Leu	Val	Val	Leu	His	Glu	Asp	Val	Arg	Leu	Thr	Phe	Ala	Gln	Leu	95	100	105	
Lys	Glu	Glu	Val	Asp	Lys	Ala	Ala	Ser	Gly	Leu	Leu	Ser	Ile	Gly	110	115	120	
Leu	Cys	Lys	Gly	Asp	Arg	Leu	Gly	Met	Trp	Gly	Pro	Asn	Ser	Tyr	125	130	135	
Ala	Trp	Val	Leu	Met	Gln	Leu	Ala	Thr	Ala	Gln	Ala	Gly	Ile	Ile	140	145	150	
Leu	Val	Ser	Val	Asn	Pro	Ala	Tyr	Gln	Ala	Met	Glu	Leu	Glu	Tyr	155	160	165	
Val	Leu	Lys	Lys	Val	Gly	Cys	Lys	Ala	Leu	Val	Phe	Pro	Lys	Gln	170	175	180	
Phe	Lys	Thr	Gln	Gln	Tyr	Tyr	Asn	Val	Leu	Lys	Gln	Ile	Cys	Pro	185	190	195	
Glu	Val	Glu	Asn	Ala	Gln	Pro	Gly	Ala	Leu	Lys	Ser	Gln	Arg	Leu	200	205	210	
Pro	Asp	Leu	Thr	Thr	Val	Ile	Ser	Val	Asp	Ala	Pro	Leu	Pro	Gly	215	220	225	
Thr	Leu	Leu	Leu	Asp	Glu	Val	Val	Ala	Ala	Gly	Ser	Thr	Arg	Gln	230	235	240	
His	Leu	Asp	Gln	Leu	Gln	Tyr	Asn	Gln	Gln	Phe	Leu	Ser	Cys	His				

245					250					255				
Asp	Pro	Ile	Asn	Ile	Gln	Phe	Thr	Ser	Gly	Thr	Thr	Gly	Ser	Pro
				260					265					270
Lys	Gly	Ala	Thr	Leu	Ser	His	Tyr	Asn	Ile	Val	Asn	Asn	Ser	Asn
				275					280					285
Ile	Leu	Gly	Glu	Arg	Leu	Lys	Leu	His	Glu	Lys	Thr	Pro	Glu	Gln
				290					295					300
Leu	Arg	Met	Ile	Leu	Pro	Asn	Pro	Leu	Tyr	His	Cys	Leu	Gly	Ser
				305					310					315
Val	Ala	Gly	Thr	Met	Met	Cys	Leu	Met	Tyr	Gly	Ala	Thr	Leu	Ile
				320					325					330
Leu	Ala	Ser	Pro	Ile	Phe	Asn	Gly	Lys	Lys	Ala	Leu	Glu	Ala	Ile
				335					340					345
Ser	Arg	Glu	Arg	Gly	Thr	Phe	Leu	Tyr	Gly	Thr	Pro	Thr	Met	Phe
				350					355					360
Val	Asp	Ile	Leu	Asn	Gln	Pro	Asp	Phe	Ser	Ser	Tyr	Asp	Ile	Ser
				365					370					375
Thr	Met	Cys	Gly	Gly	Val	Ile	Ala	Gly	Ser	Pro	Ala	Pro	Pro	Glu
				380					385					390
Leu	Ile	Arg	Ala	Ile	Ile	Asn	Lys	Ile	Asn	Met	Lys	Asp	Leu	Val
				395					400					405
Val	Ala	Tyr	Gly	Thr	Thr	Glu	Asn	Ser	Pro	Val	Thr	Phe	Ala	His
				410					415					420
Phe	Pro	Glu	Asp	Thr	Val	Glu	Gln	Lys	Ala	Glu	Ser	Val	Gly	Arg
				425					430					435
Ile	Met	Pro	His	Thr	Glu	Ala	Arg	Ile	Met	Asn	Met	Glu	Ala	Gly
				440					445					450
Thr	Leu	Ala	Lys	Leu	Asn	Thr	Pro	Gly	Glu	Leu	Cys	Ile	Arg	Gly
				455					460					465
Tyr	Cys	Val	Met	Leu	Gly	Tyr	Trp	Gly	Glu	Pro	Gln	Lys	Thr	Glu
				470					475					480
Glu	Ala	Val	Asp	Gln	Asp	Lys	Trp	Tyr	Trp	Thr	Gly	Asp	Val	Ala
				485					490					495
Thr	Met	Asn	Glu	Gln	Gly	Phe	Cys	Lys	Ile	Val	Gly	Arg	Ser	Lys
				500					505					510
Asp	Met	Ile	Ile	Arg	Gly	Gly	Glu	Asn	Ile	Tyr	Pro	Ala	Glu	Leu
				515					520					525
Glu	Asp	Phe	Phe	His	Thr	His	Pro	Lys	Val	Gln	Glu	Val	Gln	Val
				530					535					540
Val	Gly	Val	Lys	Asp	Asp	Arg	Met	Gly	Glu	Glu	Ile	Cys	Ala	Cys
				545					550					555
Ile	Arg	Leu	Lys	Asp	Gly	Glu	Glu	Thr	Thr	Val	Glu	Glu	Ile	Lys

560	565	570
Ala Phe Cys Lys Gly Lys Ile Ser His	Phe Lys Ile Pro Lys Tyr	
575	580	585
Ile Val Phe Val Thr Asn Tyr Pro Leu	Thr Ile Ser Gly Lys Ile	
590	595	600
Gln Lys Phe Lys Leu Arg Glu Gln Met	Glu Arg His Leu Asn Leu	
605	610	615

<210> 195  
 <211> 642  
 <212> DNA  
 <213> Homo sapiens

<400> 195  
 caactccaac attttaggag agcgctgaa actgcatgag aagacaccag 50  
 agcagttgcg gatgatcctg cccaaccccc tgtaccattg cctgggttcc 100  
 gtggcaggca caatgatgtg tctgatgtac ggtgccaccc tcatcctggc 150  
 ctctcccatc ttcaatggca agaaggcact ggaggccatc agcagagaga 200  
 gaggcacctt cctgtatggt acccccacga tgttcgtgga cattctgaac 250  
 cagccagact totocagtta tgacatctcg accatgtgtg gaggtgtcat 300  
 tgctgggtcc cctgcacctc cagagttgat ccgagccatc atcaacaaga 350  
 taaatatgaa ggacctggtg gttgcttatg gaaccacaga gaacagtccc 400  
 gtgacattcg cgcacttccc tgaggacact gtggagcaga aggcagaaag 450  
 cgtgggcaga attatgcctc acacggaggc gcggatcatg aacatggagg 500  
 cagggacgct ggcaaagctg aacacgcccg gggagctgtg catccgaggg 550  
 tactgctca tgctgggcta ctggggtgag cctcagaaga cagaggaagc 600  
 agtggatcag gacaagtggg attggacagg agatgtcgcc ac 642

<210> 196  
 <211> 1575  
 <212> DNA  
 <213> Homo sapiens

<400> 196  
 gagcaggacg gagccatgga ccccgccagg aaagcaggtg cccaggccat 50  
 gatctggact gcaggctggc tgctgctgct gctgcttcgc ggaggagcgc 100  
 aggccctgga gtgctacagc tgcgtgcaga aagcagatga cggatgctcc 150  
 ccgaacaaga tgaagacagt gaagtgcgcg ccgggctgtg acgtctgcac 200  
 cgaggccgtg ggggcggtg agaccatcca cggacaattc tcgctggcag 250  
 tgcgggggtg cggttcggga ctcccoggca agaataaccg cggcctggat 300  
 cttcacgggc ttctggcggt catccagctg cagcaatgcg ctcaggatcg 350



ctgcaacgcc aagctcaacc tcacctcgcg ggcgctcgac ccggcaggta 400  
 atgagagtgc ataccgcgcc aacggcgtgg agtgctacag ctgtgtgggc 450  
 ctgagccggg aggcgtgccca gggtagatcg ccgccggtcg tgagctgcta 500  
 caacgccagc gatcatgtct acaagggctg cttcgacggc aacgtcacct 550  
 tgacggcagc taatgtgact gtgtccttgc ctgtccgggg ctgtgtccag 600  
 gatgaattct gcaactcgga tggagtaaca ggcccagggt tcacgctcag 650  
 tggtctctgt tgccaggggt cccgctgtaa ctctgacctc cgcaacaaga 700  
 cctacttctc ccctogaatc ccaccccttg tccggctgcc ccctccagag 750  
 cccacgactg tggcctcaac cacatctgtc accacttcta cctcggcccc 800  
 agtgagaccc acatccacca ccaaaccat gccagcgcca accagtcaga 850  
 ctccgagaca gggagtagaa cacgaggcct cccgggatga ggagcccagg 900  
 ttgactggag gcgccgctgg ccaccaggac cgcagcaatt cagggcagta 950  
 tcttgcaaaa ggggggcccc agcagcccca taataaaggc tgtgtggctc 1000  
 ccacagctgg attggcagcc cttctgttgg ccgtggctgc tgggtgccta 1050  
 ctgtgagctt ctccacctgg aaatttcct ctcacctact tctctggccc 1100  
 tgggtacccc tcttctcatc acttctgtt cccaccactg gactgggctg 1150  
 gccagcccc tgtttttcca acattcccca gtatccccag cttctgctgc 1200  
 gctggtttgc ggctttggga aataaaatac cgttgtatat attctgccag 1250  
 ggggtgttcta gctttttgag gacagctcct gtatccttct catccttgtc 1300  
 tctccgcttg tctcttgtg atgttaggac agagtgagag aagtcagctg 1350  
 tcacggggaa ggtgagagag aggatgctaa gcttcctact cactttctcc 1400  
 tagccagcct ggactttgga gcgtggggtg ggtgggacaa tggctcccca 1450  
 ctctaagcac tgccctccct actccccgca tctttgggga atcggttccc 1500  
 catatgtctt ccttactaga ctgtgagctc ctcgaggggg ggcccgggtac 1550  
 ccaattcgcc ctatagttag tcgta 1575

<210> 197

<211> 346

<212> PRT

<213> Homo sapiens

<400> 197

Met	Asp	Pro	Ala	Arg	Lys	Ala	Gly	Ala	Gln	Ala	Met	Ile	Trp	Thr
1					5				10					15

Ala	Gly	Trp	Leu	Leu	Leu	Leu	Leu	Arg	Gly	Gly	Ala	Gln	Ala
			20					25					30

Leu	Glu	Cys	Tyr	Ser	Cys	Val	Gln	Lys	Ala	Asp	Asp	Gly	Cys	Ser
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

35					40					45				
Pro	Asn	Lys	Met	Lys	Thr	Val	Lys	Cys	Ala	Pro	Gly	Val	Asp	Val
				50					55					60
Cys	Thr	Glu	Ala	Val	Gly	Ala	Val	Glu	Thr	Ile	His	Gly	Gln	Phe
				65					70					75
Ser	Leu	Ala	Val	Arg	Gly	Cys	Gly	Ser	Gly	Leu	Pro	Gly	Lys	Asn
				80					85					90
Asp	Arg	Gly	Leu	Asp	Leu	His	Gly	Leu	Leu	Ala	Phe	Ile	Gln	Leu
				95					100					105
Gln	Gln	Cys	Ala	Gln	Asp	Arg	Cys	Asn	Ala	Lys	Leu	Asn	Leu	Thr
				110					115					120
Ser	Arg	Ala	Leu	Asp	Pro	Ala	Gly	Asn	Glu	Ser	Ala	Tyr	Pro	Pro
				125					130					135
Asn	Gly	Val	Glu	Cys	Tyr	Ser	Cys	Val	Gly	Leu	Ser	Arg	Glu	Ala
				140					145					150
Cys	Gln	Gly	Thr	Ser	Pro	Pro	Val	Val	Ser	Cys	Tyr	Asn	Ala	Ser
				155					160					165
Asp	His	Val	Tyr	Lys	Gly	Cys	Phe	Asp	Gly	Asn	Val	Thr	Leu	Thr
				170					175					180
Ala	Ala	Asn	Val	Thr	Val	Ser	Leu	Pro	Val	Arg	Gly	Cys	Val	Gln
				185					190					195
Asp	Glu	Phe	Cys	Thr	Arg	Asp	Gly	Val	Thr	Gly	Pro	Gly	Phe	Thr
				200					205					210
Leu	Ser	Gly	Ser	Cys	Cys	Gln	Gly	Ser	Arg	Cys	Asn	Ser	Asp	Leu
				215					220					225
Arg	Asn	Lys	Thr	Tyr	Phe	Ser	Pro	Arg	Ile	Pro	Pro	Leu	Val	Arg
				230					235					240
Leu	Pro	Pro	Pro	Glu	Pro	Thr	Thr	Val	Ala	Ser	Thr	Thr	Ser	Val
				245					250					255
Thr	Thr	Ser	Thr	Ser	Ala	Pro	Val	Arg	Pro	Thr	Ser	Thr	Thr	Lys
				260					265					270
Pro	Met	Pro	Ala	Pro	Thr	Ser	Gln	Thr	Pro	Arg	Gln	Gly	Val	Glu
				275					280					285
His	Glu	Ala	Ser	Arg	Asp	Glu	Glu	Pro	Arg	Leu	Thr	Gly	Gly	Ala
				290					295					300
Ala	Gly	His	Gln	Asp	Arg	Ser	Asn	Ser	Gly	Gln	Tyr	Pro	Ala	Lys
				305					310					315
Gly	Gly	Pro	Gln	Gln	Pro	His	Asn	Lys	Gly	Cys	Val	Ala	Pro	Thr
				320					325					330
Ala	Gly	Leu	Ala	Ala	Leu	Leu	Leu	Ala	Val	Ala	Ala	Gly	Val	Leu
				335					340					345

Leu

<210> 198  
<211> 1657  
<212> DNA  
<213> Homo sapiens

<400> 198  
cgggactcgg cgggtcctcc tgggagtctc ggaggggacc ggctgtgcag 50  
acgccatgga gttggtgctg gtcttcctct gcagcctgct ggcccccatg 100  
gtcctggcca gtgcagctga aaaggagaag gaaatggacc cttttcatta 150  
tgattaccag accctgagga ttgggggact ggtgttcgct gtggtcctct 200  
tctcggttgg gatcctcctt atcctaagtc gcaggtgcaa gtgcagtttc 250  
aatcagaagc cccgggcccc aggagatgag gaagcccagg tggagaacct 300  
catcacccgc aatgcaacag agccccagaa gcagagaact gaagtgcagc 350  
catcaggtgg aagcctctgg aacctgaggc ggctgcttga acctttggat 400  
gcaaattgtc atgcttaaga aaaccggcca cttcagcaac agccctttcc 450  
ccaggagaag ccaagaactt gtgtgtcccc caccctatcc cctctaacac 500  
cattcctcca cctgatgatg caactaacac ttgcctcccc actgcagcct 550  
gcggtcctgc ccacctcccg tgatgtgtgt gtgtgtgtgt gtgtgtgact 600  
gtgtgtgttt gctaactgtg gtctttgtgg ctacttgttt gtggatggta 650  
ttgtgtttgt tagtgaactg tggactcgct ttcccaggca ggggctgagc 700  
cacatggcca tctgctcctc cctgcccccg tggccctcca tcaccttctg 750  
ctcctaggag gctgcttggt gcccagacc agccccctcc cctgatttag 800  
ggatgcgtag ggtaagagca cgggcagtgg tcttcagtcg tcttgggacc 850  
tgggaagggt tgcagcactt tgtcatcatt cttcatggac tcctttcact 900  
cctttaacaa aaaccttgct tccttatccc acctgatccc agtctgaagg 950  
tctcttagca actggagata caaagcaagg agctggtgag ccagcgttg 1000  
acgtcaggca ggctatgccc ttccgtgggt aatttcttcc caggggcttc 1050  
cacgaggagt ccccatctgc ccgcccctt cacagagcgc ccggggattc 1100  
caggcccagg gcttctactc tgcccctggg gaatgtgtcc cctgcatatc 1150  
ttctcagcaa taactccatg ggctctggga cctaacccct tccaaccttc 1200  
cctgcttctg agacttcaat ctacagccca gctcatccag atgcagacta 1250  
cagtcctctg aattgggtct ctggcaggca atagttgaag gactcctgtt 1300  
ccgttggggc cagcacaccg ggatggatgg agggagagca gaggcctttg 1350  
cttctctgcc tacgtcccct tagatgggca gcagaggcaa ctcccgcatc 1400

ctttgctctg cctgtcgggtg gtcagagcgg tgagcgaggt gggttggaga 1450  
 ctcagcaggc tccgtgcagc ccttgggaac agtgagaggt tgaaggcat 1500  
 aacgagagtg ggaactcaac ccagatcccg cccctcctgt cctctgtgtt 1550  
 cccgcggaaa ccaaccaaac cgtgcgctgt gacccattgc tgttctctgt 1600  
 atcgtgatct atoctcaaca acaacagaaa aaaggaataa aatatccttt 1650  
 gtttcct 1657

<210> 199  
 <211> 120  
 <212> PRT  
 <213> Homo sapiens

<400> 199  
 Met Glu Leu Val Leu Val Phe Leu Cys Ser Leu Leu Ala Pro Met  
     1                    5                    10                    15  
 Val Leu Ala Ser Ala Ala Glu Lys Glu Lys Glu Met Asp Pro Phe  
                     20                    25                    30  
 His Tyr Asp Tyr Gln Thr Leu Arg Ile Gly Gly Leu Val Phe Ala  
                     35                    40                    45  
 Val Val Leu Phe Ser Val Gly Ile Leu Leu Ile Leu Ser Arg Arg  
                     50                    55                    60  
 Cys Lys Cys Ser Phe Asn Gln Lys Pro Arg Ala Pro Gly Asp Glu  
                     65                    70                    75  
 Glu Ala Gln Val Glu Asn Leu Ile Thr Ala Asn Ala Thr Glu Pro  
                     80                    85                    90  
 Gln Lys Gln Arg Thr Glu Val Gln Pro Ser Gly Gly Ser Leu Trp  
                     95                    100                    105  
 Asn Leu Arg Arg Leu Leu Glu Pro Leu Asp Ala Asn Val Asp Ala  
                     110                    115                    120

<210> 200  
 <211> 415  
 <212> DNA  
 <213> Homo sapiens

<400> 200  
 aaacttgacg ccatgaagat cccggtcctt cctgccgtgg tgctcctctc 50  
 cctcctgggtg ctccactctg cccagggagc caccctgggt ggtcctgagg 100  
 aagaaagcac cattgagaat tatgcgtcac gacccgaggc ctttaacacc 150  
 ccgttcctga acatcgacaa attgcgatct gcgtttaagg ctgatgagtt 200  
 cctgaactgg cacgccctct ttgagtctat caaaaggaaa cttcctttcc 250  
 tcaactggga tgccttttct aagctgaaag gactgaggag cgcaactcct 300  
 gatgccagtg gaccatgacc tccactggaa gagggggcta gcgtgagcgc 350  
 tgattctcaa cctaccataa ctctttcctg cctcaggaac tccaataaaa 400

cattttccat ccaaa 415

<210> 201

<211> 99

<212> PRT

<213> Homo sapiens

<400> 201

Met Lys Ile Pro Val Leu Pro Ala Val Val Leu Leu Ser Leu Leu  
1 5 10 15

Val Leu His Ser Ala Gln Gly Ala Thr Leu Gly Gly Pro Glu Glu  
20 25 30

Glu Ser Thr Ile Glu Asn Tyr Ala Ser Arg Pro Glu Ala Phe Asn  
35 40 45

Thr Pro Phe Leu Asn Ile Asp Lys Leu Arg Ser Ala Phe Lys Ala  
50 55 60

Asp Glu Phe Leu Asn Trp His Ala Leu Phe Glu Ser Ile Lys Arg  
65 70 75

Lys Leu Pro Phe Leu Asn Trp Asp Ala Phe Pro Lys Leu Lys Gly  
80 85 90

Leu Arg Ser Ala Thr Pro Asp Ala Gln  
95

<210> 202

<211> 678

<212> DNA

<213> Homo sapiens

<400> 202

cagttctgaa atcaatggag ttaatttagg gaatacaaac cagccatggg 50

ggtggagatt gcctttgcct cagtgattct cacctgcctc tcccttctgg 100

cagcaggagt ctcccaggtt gttcttctcc agccagttcc aactcaggag 150

acagggtccca aggccatggg agatctctcc tgtggctttg ccggccactc 200

atgagagtgt ttttgtgtaa agtatttttt agaatactgt tgacttcttc 250

atgatttaat aaccatcctt tgccaagttt tatgaggctt taggggaatg 300

tcaaccctca aatTTTTgtt atactagatg gcttccattt acccaccact 350

attttaaggt ccctttattt ttaggttcaa ggttcatttg acttgagaaa 400

gtgcccttct gcagcttcat tgattttgtt tatcttcaact attaattgta 450

acgattaaaa aagaataaga gcacgcagac ctctaggaga atattttatc 500

cctgggtgcc cctgacacat ttatgtagtg atcccacaaa tgtgattgtt 550

aatttaaagt ttatttctaat attagtacat tcagttgtga tgtaatatga 600

ataaccagaa tctatttctt aaaagttttg agtatatttt tcaactagat 650

atttgatatag aaagactgaa tagtgatg 678

<210> 203  
<211> 52  
<212> PRT  
<213> Homo sapiens

<400> 203  
Met Gly Val Glu Ile Ala Phe Ala Ser Val Ile Leu Thr Cys Leu  
1 5 10 15  
Ser Leu Leu Ala Ala Gly Val Ser Gln Val Val Leu Leu Gln Pro  
20 25 30  
Val Pro Thr Gln Glu Thr Gly Pro Lys Ala Met Gly Asp Leu Ser  
35 40 45  
Cys Gly Phe Ala Gly His Ser  
50

<210> 204  
<211> 1917  
<212> DNA  
<213> Homo sapiens

<400> 204  
ggggaatctg cagtaggtct gccggcgatg gagtgggtggg ctagctcgcc 50  
gcttcgggctc tggtctgtgt tgttcctcct gccctcagcg cagggccgcc 100  
agaaggagtc aggttcaaaa tggaaagtat ttattgacca aattaacagg 150  
tctttggaga attacgaacc atgttcaagt caaaactgca gctgctacca 200  
tggtgtcata gaagaggatc taactccttt ccgaggaggc atctccagga 250  
agatgatggc agaggtagtc agacggaagc tagggaccca ctatcagatc 300  
actaagaaca gactgtaccg ggaaaatgac tgcattgtcc cctcaagggtg 350  
tagtgggtgtt gagcacttta ttttggaagt gatcgggcgt ctccctgaca 400  
tggagatggg gatcaatgta cgagattatc ctgaggttcc taaatggatg 450  
gagcctgcca tcccagtctt ctccctcagt aagacatcag agtaccatga 500  
tatcatgtat cctgcttgga cattttggga agggggacct gctgtttggc 550  
caatttatcc tacaggtctt ggacggtggg acctcttcag agaagatctg 600  
gtaaggtcag cagcacagtg gccatggaaa aagaaaaact ctacagcata 650  
tttccgagga tcaaggacaa gtccagaacg agatcctctc attcttctgt 700  
ctcggaaaaa cccaaaactt gttgatgcag aatacaccaa aaaccaggcc 750  
tggaaatcta tgaaagatac cttaggaaaag ccagctgcta aggatgtcca 800  
tcttgtggat cactgcaaat acaagtatct gtttaatttt cgaggcgtag 850  
ctgcaagttt ccggtttaa cacctcttcc tgtgtggctc acttgttttc 900  
catgttggtg atgagtggct agaattcttc tatccacagc tgaagccatg 950  
ggttcactat atcccagtca aaacagatct ctccaatgtc caagagctgt 1000

tacaatttgt aaaagcaaat gatgatgtag ctcaagagat tgctgaaagg 1050  
 ggaagccagt ttattaggaa ccatttgcag atggatgaca tcacctgtta 1100  
 ctggggagaac ctcttgagtg aatactctaa attcctgtct tataatgtaa 1150  
 cgagaaggaa aggttatgat caaattattc ccaaaatggt gaaaactgaa 1200  
 ctatagtagt catcatagga ccatagtcct ctttgtggca acagatctca 1250  
 gatatcctac ggtgagaagc ttaccataag cttgggtcct atacottgaa 1300  
 tatctgctat caagccaaat acctggtttt ccttatcatg ctgcacccag 1350  
 agcaactctt gagaaagatt taaaatgtgt ctaatacact gatatgaagc 1400  
 agttcaactt ttgggatgaa taaggaccag aaatcgtgag atgtggattt 1450  
 tgaaccaaac tctacctttc attttcttaa gaccaatcac agcttgtgcc 1500  
 tcagatcatc cacctgtgtg agtccatcac tgtgaaattg actgtgtcca 1550  
 tgtgatgatg ccctttgtcc cattatttgg agcagaaaat tcgtcatttg 1600  
 gaagtagtac aactcattgc tggaattgtg aaattattca aggcgtgatc 1650  
 tctgtcactt tattttaatg taggaaacc tatgggggtt atgaaaaata 1700  
 cttgggggatc attctctgaa tgggtctaagg aagcggtagc catgccatgc 1750  
 aatgatgtag gagttctctt ttgtaaaacc ataaactctg ttactcagga 1800  
 ggtttctata atgccacata gaaagaggcc aattgcatga gtaattattg 1850  
 caattggatt tcagggtccc ttttgtgcc ttcatgccct actttottaat 1900  
 gcctctctaa agccaaa 1917

<210> 205  
 <211> 392  
 <212> PRT  
 <213> Homo sapiens

<400> 205  
 Met Glu Trp Trp Ala Ser Ser Pro Leu Arg Leu Trp Leu Leu Leu  
 1 5 10 15  
 Phe Leu Leu Pro Ser Ala Gln Gly Arg Gln Lys Glu Ser Gly Ser  
 20 25 30  
 Lys Trp Lys Val Phe Ile Asp Gln Ile Asn Arg Ser Leu Glu Asn  
 35 40 45  
 Tyr Glu Pro Cys Ser Ser Gln Asn Cys Ser Cys Tyr His Gly Val  
 50 55 60  
 Ile Glu Glu Asp Leu Thr Pro Phe Arg Gly Gly Ile Ser Arg Lys  
 65 70 75  
 Met Met Ala Glu Val Val Arg Arg Lys Leu Gly Thr His Tyr Gln  
 80 85 90  
 Ile Thr Lys Asn Arg Leu Tyr Arg Glu Asn Asp Cys Met Phe Pro

	95	100	105
Ser Arg Cys Ser Gly Val Glu His Phe	Ile Leu Glu Val Ile Gly		
110	115	120	
Arg Leu Pro Asp Met Glu Met Val Ile	Asn Val Arg Asp Tyr Pro		
125	130	135	
Gln Val Pro Lys Trp Met Glu Pro Ala	Ile Pro Val Phe Ser Phe		
140	145	150	
Ser Lys Thr Ser Glu Tyr His Asp Ile	Met Tyr Pro Ala Trp Thr		
155	160	165	
Phe Trp Glu Gly Gly Pro Ala Val Trp	Pro Ile Tyr Pro Thr Gly		
170	175	180	
Leu Gly Arg Trp Asp Leu Phe Arg Glu	Asp Leu Val Arg Ser Ala		
185	190	195	
Ala Gln Trp Pro Trp Lys Lys Lys Asn	Ser Thr Ala Tyr Phe Arg		
200	205	210	
Gly Ser Arg Thr Ser Pro Glu Arg Asp	Pro Leu Ile Leu Leu Ser		
215	220	225	
Arg Lys Asn Pro Lys Leu Val Asp Ala	Glu Tyr Thr Lys Asn Gln		
230	235	240	
Ala Trp Lys Ser Met Lys Asp Thr Leu	Gly Lys Pro Ala Ala Lys		
245	250	255	
Asp Val His Leu Val Asp His Cys Lys	Tyr Lys Tyr Leu Phe Asn		
260	265	270	
Phe Arg Gly Val Ala Ala Ser Phe Arg	Phe Lys His Leu Phe Leu		
275	280	285	
Cys Gly Ser Leu Val Phe His Val Gly	Asp Glu Trp Leu Glu Phe		
290	295	300	
Phe Tyr Pro Gln Leu Lys Pro Trp Val	His Tyr Ile Pro Val Lys		
305	310	315	
Thr Asp Leu Ser Asn Val Gln Glu Leu	Leu Gln Phe Val Lys Ala		
320	325	330	
Asn Asp Asp Val Ala Gln Glu Ile Ala	Glu Arg Gly Ser Gln Phe		
335	340	345	
Ile Arg Asn His Leu Gln Met Asp Asp	Ile Thr Cys Tyr Trp Glu		
350	355	360	
Asn Leu Leu Ser Glu Tyr Ser Lys Phe	Leu Ser Tyr Asn Val Thr		
365	370	375	
Arg Arg Lys Gly Tyr Asp Gln Ile Ile	Pro Lys Met Leu Lys Thr		
380	385	390	
Glu Leu			

<210> 206



<211> 1425  
<212> DNA  
<213> Homo sapiens

<400> 206  
caccctcca tttctcgcca tggcccctgc actgctcctg atccctgctg 50  
ccctcgctc tttcatcctg gcctttggca ccggagtga gttcgtgogc 100  
tttacctccc ttcgccact tcttgaggg atcccgagt ctggtggtcc 150  
ggatgccgc cagggatggc tggctgccct gcaggaccgc agcatccttg 200  
ccccctggc atgggatctg gggctcctgc ttctatattgt tgggcagcac 250  
agcctcatgg cagctgaaag agtgaaggca tggacatccc ggtacttttg 300  
ggtccttcag aggtcactgt atgtggcctg cactgccctg gccttgacgc 350  
tggtgatgcg gtactgggag ccataccca aaggccctgt gttgtgggag 400  
gctcgggctg agccatgggc cacctgggtg ccgctcctct gctttgtgct 450  
ccatgtcatc tcttggtcc tcacttttag catccttctc gtctttgact 500  
atgctgagct catgggcctc aaacaggat actaccatgt gctggggctg 550  
ggcgagcctc tggccctgaa gtctccccg gctctcagac tcttctccca 600  
cctgcgccac ccagtgtgtg tggagctgct gacagtgctg tgggtggtgc 650  
ctaccctggg cacggaccgt ctctccttg ctttctcct taccctctac 700  
ctgggcctgg ctacgggct tgatcagcaa gacctccgct acctccgggc 750  
ccagctacaa agaaaactcc acctgctctc tggccccag gatggggagg 800  
cagagtgagg agctcactct ggttacaagc cctgtttctc ctctccact 850  
gaattctaaa tccttaacat ccaggccctg gctgcttcat gccagaggcc 900  
caaatccatg gactgaagga gatgcccct ctactacttg agactttatt 950  
ctctgggtcc agctccatac cctaaattct gagtttcagc cactgaactc 1000  
caaggctcac ttctcaccag caaggaagag tggggtatgg aagtcactctg 1050  
tcccttcact gtttagagca tgacactctc cccctcaaca gcctcctgag 1100  
aaggaaagga tctgcctga ccactcccct ggcactgtta cttgcctctg 1150  
cgctcaggg gtcccttct gcaccgctg cttccactcc aagaaggagg 1200  
accagggtct gcaagttcaa cgtcatagc tgtccctoca ggccccaacc 1250  
ttgcctcacc actcccgcc ctagtctctg cacctcctta ggccctgcct 1300  
ctgggctcag accccaacct agtcaagggg atttctctgc tottaactcg 1350  
atgacttggg gctccctgct ctcccagga agatgctctg caggaaaata 1400  
aaagtcagcc tttttctaaa aaaaa 1425

<210> 207  
 <211> 262  
 <212> PRT  
 <213> Homo sapiens

<400> 207

Met	Ala	Pro	Ala	Leu	Leu	Leu	Ile	Pro	Ala	Ala	Leu	Ala	Ser	Phe
1				5					10					15
Ile	Leu	Ala	Phe	Gly	Thr	Gly	Val	Glu	Phe	Val	Arg	Phe	Thr	Ser
				20					25					30
Leu	Arg	Pro	Leu	Leu	Gly	Gly	Ile	Pro	Glu	Ser	Gly	Gly	Pro	Asp
				35					40					45
Ala	Arg	Gln	Gly	Trp	Leu	Ala	Ala	Leu	Gln	Asp	Arg	Ser	Ile	Leu
				50					55					60
Ala	Pro	Leu	Ala	Trp	Asp	Leu	Gly	Leu	Leu	Leu	Leu	Phe	Val	Gly
				65					70					75
Gln	His	Ser	Leu	Met	Ala	Ala	Glu	Arg	Val	Lys	Ala	Trp	Thr	Ser
				80					85					90
Arg	Tyr	Phe	Gly	Val	Leu	Gln	Arg	Ser	Leu	Tyr	Val	Ala	Cys	Thr
				95					100					105
Ala	Leu	Ala	Leu	Gln	Leu	Val	Met	Arg	Tyr	Trp	Glu	Pro	Ile	Pro
				110					115					120
Lys	Gly	Pro	Val	Leu	Trp	Glu	Ala	Arg	Ala	Glu	Pro	Trp	Ala	Thr
				125					130					135
Trp	Val	Pro	Leu	Leu	Cys	Phe	Val	Leu	His	Val	Ile	Ser	Trp	Leu
				140					145					150
Leu	Ile	Phe	Ser	Ile	Leu	Leu	Val	Phe	Asp	Tyr	Ala	Glu	Leu	Met
				155					160					165
Gly	Leu	Lys	Gln	Val	Tyr	Tyr	His	Val	Leu	Gly	Leu	Gly	Glu	Pro
				170					175					180
Leu	Ala	Leu	Lys	Ser	Pro	Arg	Ala	Leu	Arg	Leu	Phe	Ser	His	Leu
				185					190					195
Arg	His	Pro	Val	Cys	Val	Glu	Leu	Leu	Thr	Val	Leu	Trp	Val	Val
				200					205					210
Pro	Thr	Leu	Gly	Thr	Asp	Arg	Leu	Leu	Leu	Ala	Phe	Leu	Leu	Thr
				215					220					225
Leu	Tyr	Leu	Gly	Leu	Ala	His	Gly	Leu	Asp	Gln	Gln	Asp	Leu	Arg
				230					235					240
Tyr	Leu	Arg	Ala	Gln	Leu	Gln	Arg	Lys	Leu	His	Leu	Leu	Ser	Arg
				245					250					255
Pro	Gln	Asp	Gly	Glu	Ala	Glu								
				260										

<210> 208  
 <211> 2095  
 <212> DNA

<213> Homo sapiens

<400> 208

ccgagcacag gagattgcct gcgttttagga ggtggctgcg ttgtgggaaa 50  
agctatcaag gaagaaattg ccaaaccatg tctttttttc tgttttcaga 100  
gtagttcaca acagatctga gtgttttaat taagcatgga atacagaaaa 150  
caacaaaaaa cttaagcttt aatttcatct ggaattccac agttttctta 200  
gctccctgga cccggttgac ctgttggtc ttcccgtgg ctgctctatc 250  
acgtggtgct ctccgactac tcaccccgag tgtaaagaac cttcggctcg 300  
cgtgcttctg agctgctgtg gatggcctcg gctctctgga ctgtccttcc 350  
gagtaggatg tcaactgagat ccctcaaag gagcctcctg ctgctgtcac 400  
tcctgagttt ctttgtgatg tggtaacctca gccttcccca ctacaatgtg 450  
atagaacgcg tgaactggat gtacttctat gagtatgagc cgattttacag 500  
acaagacttt cacttcacac ttcgagagca ttcaaactgc tctcatcaaa 550  
atccatttct ggtcattctg gtgacctccc acccttcaga tgtgaaagcc 600  
aggcaggcca ttagagttac ttggggtgaa aaaaagtctt ggtggggata 650  
tgaggttctt acatttttct tattaggcca agaggctgaa aaggaagaca 700  
aaatgttggc attgtcctta gaggatgaac accttcttta tggtgacata 750  
atccgacaag atttttttaga cacatataat aacctgacct tgaaaacat 800  
tatggcattc aggtgggtaa ctgagttttg ccccaatgcc aagtacgtaa 850  
tgaagacaga cactgatgtt ttcacataata ctggcaattt agtgaagtat 900  
cttttaaac taaaccactc agagaagttt ttcacagggt atcctctaata 950  
tgataattat tcctatagag gattttacca aaaaacccat atttcttacc 1000  
aggagtatcc tttcaagggt tccctccat actgcagtgg gttgggttat 1050  
ataatgtcca gagatttggg gccaaaggatc tatgaaatga tgggtcacgt 1100  
aaaacccatc aagtttgaag atgtttatgt cgggatctgt ttgaatttat 1150  
taaaagtga cattcatatt ccagaagaca caaatctttt ctttctatat 1200  
agaatccatt tggatgtctg tcaactgaga cgtgtgattg cagcccatgg 1250  
cttttcttcc aaggagatca tcaacttttg gcaggatcatg ctaaggaaca 1300  
ccacatgcca ttattaactt cacattctac aaaaagccta gaaggacagg 1350  
ataccttgtg gaaagtgtta aataaagtag gtactgtgga aaattcatgg 1400  
ggaggtcagt gtgctggctt aactgaact gaaactcatg aaaaaccag 1450  
actggagact ggagggttac acttgtgatt tattagtcag gcccttcaaa 1500

gatgatatgt ggaggaatta aatataaagg aattggaggt ttttgctaaa 1550  
gaaattaata ggaccaaaca atttggacat gtcattctgt agactagaat 1600  
ttcttaaaaag ggtgttactg agttataagc tcactaggct gtaaaaacaa 1650  
aacaatgtag agttttatatt attgaacaat gtagtcactt gaaggttttg 1700  
tgtatatctt atgtggatta ccaatttaaa aatatatgta gttctgtgtc 1750  
aaaaaacctt ttactgaag ttatactgaa caaaatttta cctgtttttg 1800  
gtcatttata aagtacttca agatgttgca gtatttcaca gttattatta 1850  
tttaaaatta cttcaacttt gtgtttttta atgttttgac gatttcaata 1900  
caagataaaa aggatagtga atcattcttt acatgcaaac attttccagt 1950  
tacttaactg atcagtttat tattgataca tcactccatt aatgtaaagt 2000  
cataggtcat tattgcatat cagtaatctc ttggactttg ttaaataatt 2050  
tactgtggta atatagagaa gaattaaagc aagaaaatct gaaaa 2095

<210> 209  
<211> 331  
<212> PRT  
<213> Homo sapiens

<400> 209  
Met Ala Ser Ala Leu Trp Thr Val Leu Pro Ser Arg Met Ser Leu  
1 5 10 15  
Arg Ser Leu Lys Trp Ser Leu Leu Leu Leu Ser Leu Leu Ser Phe  
20 25 30  
Phe Val Met Trp Tyr Leu Ser Leu Pro His Tyr Asn Val Ile Glu  
35 40 45  
Arg Val Asn Trp Met Tyr Phe Tyr Glu Tyr Glu Pro Ile Tyr Arg  
50 55 60  
Gln Asp Phe His Phe Thr Leu Arg Glu His Ser Asn Cys Ser His  
65 70 75  
Gln Asn Pro Phe Leu Val Ile Leu Val Thr Ser His Pro Ser Asp  
80 85 90  
Val Lys Ala Arg Gln Ala Ile Arg Val Thr Trp Gly Glu Lys Lys  
95 100 105  
Ser Trp Trp Gly Tyr Glu Val Leu Thr Phe Phe Leu Leu Gly Gln  
110 115 120  
Glu Ala Glu Lys Glu Asp Lys Met Leu Ala Leu Ser Leu Glu Asp  
125 130 135  
Glu His Leu Leu Tyr Gly Asp Ile Ile Arg Gln Asp Phe Leu Asp  
140 145 150  
Thr Tyr Asn Asn Leu Thr Leu Lys Thr Ile Met Ala Phe Arg Trp  
155 160 165

Val	Thr	Glu	Phe	Cys	Pro	Asn	Ala	Lys	Tyr	Val	Met	Lys	Thr	Asp	
				170					175					180	
Thr	Asp	Val	Phe	Ile	Asn	Thr	Gly	Asn	Leu	Val	Lys	Tyr	Leu	Leu	
				185					190					195	
Asn	Leu	Asn	His	Ser	Glu	Lys	Phe	Phe	Thr	Gly	Tyr	Pro	Leu	Ile	
				200					205					210	
Asp	Asn	Tyr	Ser	Tyr	Arg	Gly	Phe	Tyr	Gln	Lys	Thr	His	Ile	Ser	
				215					220					225	
Tyr	Gln	Glu	Tyr	Pro	Phe	Lys	Val	Phe	Pro	Pro	Tyr	Cys	Ser	Gly	
				230					235					240	
Leu	Gly	Tyr	Ile	Met	Ser	Arg	Asp	Leu	Val	Pro	Arg	Ile	Tyr	Glu	
				245					250					255	
Met	Met	Gly	His	Val	Lys	Pro	Ile	Lys	Phe	Glu	Asp	Val	Tyr	Val	
				260					265					270	
Gly	Ile	Cys	Leu	Asn	Leu	Leu	Lys	Val	Asn	Ile	His	Ile	Pro	Glu	
				275					280					285	
Asp	Thr	Asn	Leu	Phe	Phe	Leu	Tyr	Arg	Ile	His	Leu	Asp	Val	Cys	
				290					295					300	
Gln	Leu	Arg	Arg	Val	Ile	Ala	Ala	His	Gly	Phe	Ser	Ser	Lys	Glu	
				305					310					315	
Ile	Ile	Thr	Phe	Trp	Gln	Val	Met	Leu	Arg	Asn	Thr	Thr	Cys	His	
				320					325					330	

Tyr

<210> 210

<211> 745

<212> DNA

<213> Homo sapiens

<400> 210

```

cctctgtcca ctgctttcgt gaagacaaga tgaagttcac aattgtcttt 50
gctggacttc ttggagtctt tctagctcct gccctagcta actataatat 100
caacgtcaat gatgacaaca acaatgctgg aagtgggcag cagtcagtga 150
gtgtcaacaa tgaacacaat gtggccaatg ttgacaataa caacggatgg 200
gactcctgga attccatctg ggattatgga aatggctttg ctgcaaccag 250
actctttcaa aagaagacat gcattgtgca caaatgaac aaggaagtca 300
tgccctccat tcaatccctt gatgcaactgg tcaaggaaaa gaagcttcag 350
ggtaaggggac caggaggacc acctoccaaag ggctgatgt actcagtcaa 400
cccaaacaaa gtcgatgacc tgagcaagtt cggaaaaaac attgcaaaca 450
tgtgtcgtgg gattccaaca tacatggctg aggagatgca agaggcaagc 500
ctgttttttt actcaggaac gtgctacacg accagtgtac tatggattgt 550

```

ggacatttcc ttctgtggag acacggtgga gaactaaaca attttttaaa 600  
gccactatgg atttagtcat ctgaatatgc tgtgcagaaa aaatatgggc 650  
tccagtgggtt tttaccatgt cattctgaaa tttttctcta ctagttatgt 700  
ttgatttctt taagtttcaa taaaatcatt tagcattgaa aaaaa 745

<210> 211  
<211> 185  
<212> PRT  
<213> Homo sapiens

<400> 211  
Met Lys Phe Thr Ile Val Phe Ala Gly Leu Leu Gly Val Phe Leu  
1 5 10 15  
Ala Pro Ala Leu Ala Asn Tyr Asn Ile Asn Val Asn Asp Asp Asn  
20 25 30  
Asn Asn Ala Gly Ser Gly Gln Gln Ser Val Ser Val Asn Asn Glu  
35 40 45  
His Asn Val Ala Asn Val Asp Asn Asn Asn Gly Trp Asp Ser Trp  
50 55 60  
Asn Ser Ile Trp Asp Tyr Gly Asn Gly Phe Ala Ala Thr Arg Leu  
65 70 75  
Phe Gln Lys Lys Thr Cys Ile Val His Lys Met Asn Lys Glu Val  
80 85 90  
Met Pro Ser Ile Gln Ser Leu Asp Ala Leu Val Lys Glu Lys Lys  
95 100 105  
Leu Gln Gly Lys Gly Pro Gly Gly Pro Pro Pro Lys Gly Leu Met  
110 115 120  
Tyr Ser Val Asn Pro Asn Lys Val Asp Asp Leu Ser Lys Phe Gly  
125 130 135  
Lys Asn Ile Ala Asn Met Cys Arg Gly Ile Pro Thr Tyr Met Ala  
140 145 150  
Glu Glu Met Gln Glu Ala Ser Leu Phe Phe Tyr Ser Gly Thr Cys  
155 160 165  
Tyr Thr Thr Ser Val Leu Trp Ile Val Asp Ile Ser Phe Cys Gly  
170 175 180  
Asp Thr Val Glu Asn  
185

<210> 212  
<211> 1706  
<212> DNA  
<213> Homo sapiens

<400> 212  
catttctgaa actaatcgtg tcagaattga ctttgaaaag cattgctttt 50  
tacagaagta tattaacttt ttaggagtaa tttctagttt ggattgtaat 100

atgaaataat ttaaaagggc ttcgctcata tataggaaaa tcgcatatgg 150  
 tcctagtatt aaattcttat tgcttactga tttttttgag ttaagagttg 200  
 ttatatgcta gaatatgagg atgtgaatat aaataagaga agaaaaaaga 250  
 ataaagtaga ttgagtcctc aattttatgt aagcttcaga agaactgggt 300  
 tgtttacatg caagcttata gttgaaatat ttttcaggaa ttacatgaat 350  
 gacagtcttc gaaccaatgt gtttgttoga tttcaaccag agactatagc 400  
 atgtgcttgc atctaccttg cagctagagc acttcagatt ccgttgccaa 450  
 ctcgccccca ttggtttctt ctttttggtg ctacagaaga ggaaatccag 500  
 gaaatctgca tagaaacact taggctttat accagaaaaa agccaaacta 550  
 tgaattactg gaaaaagaag tagaaaaaag aaaagtagcc ttacaagaag 600  
 ccaaattaaa agcaaagggg ttgaatccgg atggaactcc agccctttca 650  
 accctgggtg gatcttctcc agcctccaag ccatcatcac caagagaagt 700  
 aaaagctgaa gagaaatcac caatctccat taatgtgaag acagtcaaaa 750  
 aagaacctga ggatagacaa caggcttcca aaagccctta caatggtgta 800  
 agaaaagaca gcaagagaag tagaaatagc agaagtgcaa gtcgatcgag 850  
 gtcaagaaca cgatcacgtt ctagatcaca tactccaaga agacactata 900  
 ataataggcg gagtcgatct ggaacataca gtcgagatc aagaagcagg 950  
 tcccgcagtc acagtgaaag cctcgaaga catcataatc atggttctcc 1000  
 tcaccttaag gccaaagcata ccagagatga tttaaaaagt tcaaacagac 1050  
 atggtcataa aaggaaaaaa tctcgttctc gatctcagag caagtctcgg 1100  
 gatcactcag atgcagccaa gaaacacagg catgaaaggg gacatcatag 1150  
 ggacaggcgt gaacgatctc gtcctttga gaggtcccat aaaagcaagc 1200  
 accatgggtg cagtgcgtca ggacatggca ggcacaggcg ctgactttct 1250  
 cttcctttga gcctgcatca gttcttggtt ttgcctatct acagtgtgat 1300  
 gtatggactc aatcaaaaac attaaacgca aactgattag gatttgattt 1350  
 cttgaaaccc tctaggtctc tagaactctg aggacagttt cttttgaaaa 1400  
 gaactatggt aatttttttg cacattaaaa tgccctagca gtatctaatt 1450  
 aaaaaccatg gtcaggttca attgtacttt attatagttg tgtattgttt 1500  
 attgctataa gaactggagc gtgaattctg taaaaatgta tcttattttt 1550  
 atacagataa aattgcagac actgttctat ttaagtgggt atttgtttta 1600  
 atgatggtga atactttctt aacactgggt tgtctgcatg tgtaaagatt 1650  
 tttacaagga aataaaatac aaatcttggt ttttctaaaa aaaaaaaaaa 1700

aaaagt 1706

<210> 213

<211> 299

<212> PRT

<213> Homo sapiens

<400> 213

Met	Asn	Asp	Ser	Leu	Arg	Thr	Asn	Val	Phe	Val	Arg	Phe	Gln	Pro	
1				5					10					15	
Glu	Thr	Ile	Ala	Cys	Ala	Cys	Ile	Tyr	Leu	Ala	Ala	Arg	Ala	Leu	
				20					25					30	
Gln	Ile	Pro	Leu	Pro	Thr	Arg	Pro	His	Trp	Phe	Leu	Leu	Phe	Gly	
				35					40					45	
Thr	Thr	Glu	Glu	Glu	Ile	Gln	Glu	Ile	Cys	Ile	Glu	Thr	Leu	Arg	
				50					55					60	
Leu	Tyr	Thr	Arg	Lys	Lys	Pro	Asn	Tyr	Glu	Leu	Leu	Glu	Lys	Glu	
				65					70					75	
Val	Glu	Lys	Arg	Lys	Val	Ala	Leu	Gln	Glu	Ala	Lys	Leu	Lys	Ala	
				80					85					90	
Lys	Gly	Leu	Asn	Pro	Asp	Gly	Thr	Pro	Ala	Leu	Ser	Thr	Leu	Gly	
				95					100					105	
Gly	Phe	Ser	Pro	Ala	Ser	Lys	Pro	Ser	Ser	Pro	Arg	Glu	Val	Lys	
				110					115					120	
Ala	Glu	Glu	Lys	Ser	Pro	Ile	Ser	Ile	Asn	Val	Lys	Thr	Val	Lys	
				125					130					135	
Lys	Glu	Pro	Glu	Asp	Arg	Gln	Gln	Ala	Ser	Lys	Ser	Pro	Tyr	Asn	
				140					145					150	
Gly	Val	Arg	Lys	Asp	Ser	Lys	Arg	Ser	Arg	Asn	Ser	Arg	Ser	Ala	
				155					160					165	
Ser	Arg	Ser	Arg	Ser	Arg	Thr	Arg	Ser	Arg	Ser	Arg	Ser	His	Thr	
				170					175					180	
Pro	Arg	Arg	His	Tyr	Asn	Asn	Arg	Arg	Ser	Arg	Ser	Gly	Thr	Tyr	
				185					190					195	
Ser	Ser	Arg	Ser	Arg	Ser	Arg	Ser	Arg	Ser	His	Ser	Glu	Ser	Pro	
				200					205					210	
Arg	Arg	His	His	Asn	His	Gly	Ser	Pro	His	Leu	Lys	Ala	Lys	His	
				215					220					225	
Thr	Arg	Asp	Asp	Leu	Lys	Ser	Ser	Asn	Arg	His	Gly	His	Lys	Arg	
				230					235					240	
Lys	Lys	Ser	Arg	Ser	Arg	Ser	Gln	Ser	Lys	Ser	Arg	Asp	His	Ser	
				245					250					255	
Asp	Ala	Ala	Lys	Lys	His	Arg	His	Glu	Arg	Gly	His	His	Arg	Asp	
				260					265					270	
Arg	Arg	Glu	Arg	Ser	Arg	Ser	Phe	Glu	Arg	Ser	His	Lys	Ser	Lys	



His His Gly Gly Ser Arg Ser Gly His Gly Arg His Arg Arg  
290 295

<210> 214  
<211> 730  
<212> DNA  
<213> Homo sapiens  
  
<220>  
<221> unsure  
<222> 72-73, 85, 91, 127, 226, 268, 454, 484, 513, 566, 663  
<223> unknown base

<400> 214  
tggggataaa ggaaaaatgg tcaggtatta atggcttaaa gattattgga 50  
agggggtttat cattttttga anntattcgg gtcanaattg nctttgaaaa 100  
gcattgcttt ttacagaaat atattanctt tttagagtaa tttctagttt 150  
ggattgtaat atgaaattat ttaaaagggc ttcgctcata tataggaaaa 200  
tcgcatatgg tcctagtatt aaattnttat tgcttactga tttttttgag 250  
ttaagagttg ttatatgnta gaatatgagg atgtgaatat aaataagaga 300  
agaaaaaaga ataaagtaga ttgagtcctcc aattttatgt aagcttcaga 350  
agaactgggtt tgttttacatg caagcttata gttgaaatat ttttcaggaa 400  
ttacatgaat gacagtcttc gaaccaatgt gtttgttcga tttcaaccag 450  
agantatagc atgtgcttgc atctaccttg cagntagagc acttcagatt 500  
ccgttgccaa ctngtcccca ttggtttctt ctttttggtg ctacagaaga 550  
ggaaatccag gaaatntgca tagaaacact taggctttat accagaaaaa 600  
agccaaacta tgaattactg gaaaaagaag tagaaaaaag aaaagtagcc 650  
ttacaagaag ccnaattaaa agcaaaggga ttgaatccgg atggaactcc 700  
agccctttca accctgggtg gatttttctcc 730

<210> 215  
<211> 1807  
<212> DNA  
<213> Homo sapiens

<400> 215  
ggcacgaggc ctctgtgcaa gcttggcacg aggggtgcacc gcgttctcgc 50  
acgcgtcatg gcggtcctcg gagtacagct ggtgggtgacc ctgctcactg 100  
ccaccctcat gcacaggctg gcgccacact gctccttcgc gcgctggctg 150  
ctctgtaacg gcagtttggt ccgatacaag caccctgtctg aggaggagct 200  
tcggggccctg gcggggaagc cgaggccagc aggcaggaaa gagcgggtggg 250  
ccaatggcct tagtgaggag aagccactgt ctgtgccccg agatgccccg 300

ttccagctgg agacctgccc cctcacgacc gtggatgccc tggtcctgcg 350  
 cttcttcctg gaggaccagt ggtttgtgga ctttgctgtg tactcgggcg 400  
 gcgtgtacct cttcacagag gcctactact acatgctggg accagccaag 450  
 gagactaaca ttgctgtgtt ctggtgccctg ctcacggtga ctttctccat 500  
 caagatgttc ctgacagtga cacggctgta cttcagcgcc gaggaggggg 550  
 gtgagcgctc tgtctgcctc acctttgcct tctcttcct gctgctggcc 600  
 atgctgggtgc aagtgggtgc ggaggagacc ctcgagctgg gcctggagcc 650  
 tggctctggcc agcatgaccc agaacttaga gccacttctg aagaagcagg 700  
 gctgggactg ggcgcttct gtggccaagc tggctatccg cgtgggactg 750  
 gcagtgggtg gctctgtgt gggtgccttc ctcaccttcc caggcctgcg 800  
 gctggcccag acccaccggg acgcactgac catgtcggag gacagacca 850  
 tgctgcagtt cctctgcac accagcttcc tgtctccct gttcatcctg 900  
 tggctctgga caaagcccat tgcacgggac ttctgcacc agccgccgtt 950  
 tggggagacg cgtttctccc tgctgtccga ttctgccttc gactctgggc 1000  
 gcctctgggt gctgggtgtg ctgtgcctgc tgcggctggc ggtgaccgg 1050  
 cccacctgc aggcctacct gtgcctggcc aaggccggg tggagcagct 1100  
 gogaagggag gctggccga tcgaagccg tgaaatccag cagaggggtg 1150  
 tccgagtcta ctgctatgt accgtggtga gcttgagta cctgacgccg 1200  
 ctcatcctca cctcaactg cacacttctg ctcaagacgc tgggaggcta 1250  
 ttctggggc ctgggcccag ctctctact atccccgac ccatcctcag 1300  
 ccagcgctgc ccccatcggc tctggggagg acgaagtcca gcagactgca 1350  
 gcgcggattg ccggggccct ggggtggcctg cttactcccc tottctccg 1400  
 tggcgtcctg gcctacctca tctgggtggac ggctgcctgc cagctgctcg 1450  
 ccagcctttt cggcctctac ttccaccagc acttggcagg ctctagctg 1500  
 cctgcagacc ctctggggc cctgaggtct gttctgggg cagcgggaca 1550  
 ctacgctgcc cctctgttt gcgccccgt gtcccagct gcaaggtggg 1600  
 gccggactcc ccggcgttc cttaccaca gtgcctgacc cgcggccccc 1650  
 cttggacgcc gattttctgc ctcagaactg tctctctgg gccagcagc 1700  
 atgagggctc cgaggccatt gtctccgaag cgtatgtgcc aggtttgagt 1750  
 ggcgaggggt atgctggctg ctctctgaa caataaagg agcatgccga 1800  
 tttttaa 1807

<210> 216

<211> 479  
 <212> PRT  
 <213> Homo sapiens

<400> 216

Met	Ala	Val	Leu	Gly	Val	Gln	Leu	Val	Val	Thr	Leu	Leu	Thr	Ala	1	5	10	15
Thr	Leu	Met	His	Arg	Leu	Ala	Pro	His	Cys	Ser	Phe	Ala	Arg	Trp	20	25	30	
Leu	Leu	Cys	Asn	Gly	Ser	Leu	Phe	Arg	Tyr	Lys	His	Pro	Ser	Glu	35	40	45	
Glu	Glu	Leu	Arg	Ala	Leu	Ala	Gly	Lys	Pro	Arg	Pro	Arg	Gly	Arg	50	55	60	
Lys	Glu	Arg	Trp	Ala	Asn	Gly	Leu	Ser	Glu	Glu	Lys	Pro	Leu	Ser	65	70	75	
Val	Pro	Arg	Asp	Ala	Pro	Phe	Gln	Leu	Glu	Thr	Cys	Pro	Leu	Thr	80	85	90	
Thr	Val	Asp	Ala	Leu	Val	Leu	Arg	Phe	Phe	Leu	Glu	Tyr	Gln	Trp	95	100	105	
Phe	Val	Asp	Phe	Ala	Val	Tyr	Ser	Gly	Gly	Val	Tyr	Leu	Phe	Thr	110	115	120	
Glu	Ala	Tyr	Tyr	Tyr	Met	Leu	Gly	Pro	Ala	Lys	Glu	Thr	Asn	Ile	125	130	135	
Ala	Val	Phe	Trp	Cys	Leu	Leu	Thr	Val	Thr	Phe	Ser	Ile	Lys	Met	140	145	150	
Phe	Leu	Thr	Val	Thr	Arg	Leu	Tyr	Phe	Ser	Ala	Glu	Glu	Gly	Gly	155	160	165	
Glu	Arg	Ser	Val	Cys	Leu	Thr	Phe	Ala	Phe	Leu	Phe	Leu	Leu	Leu	170	175	180	
Ala	Met	Leu	Val	Gln	Val	Val	Arg	Glu	Glu	Thr	Leu	Glu	Leu	Gly	185	190	195	
Leu	Glu	Pro	Gly	Leu	Ala	Ser	Met	Thr	Gln	Asn	Leu	Glu	Pro	Leu	200	205	210	
Leu	Lys	Lys	Gln	Gly	Trp	Asp	Trp	Ala	Leu	Pro	Val	Ala	Lys	Leu	215	220	225	
Ala	Ile	Arg	Val	Gly	Leu	Ala	Val	Val	Gly	Ser	Val	Leu	Gly	Ala	230	235	240	
Phe	Leu	Thr	Phe	Pro	Gly	Leu	Arg	Leu	Ala	Gln	Thr	His	Arg	Asp	245	250	255	
Ala	Leu	Thr	Met	Ser	Glu	Asp	Arg	Pro	Met	Leu	Gln	Phe	Leu	Leu	260	265	270	
His	Thr	Ser	Phe	Leu	Ser	Pro	Leu	Phe	Ile	Leu	Trp	Leu	Trp	Thr	275	280	285	
Lys	Pro	Ile	Ala	Arg	Asp	Phe	Leu	His	Gln	Pro	Pro	Phe	Gly	Glu				

	290	295	300
Thr Arg Phe Ser	Leu Leu Ser Asp Ser	Ala Phe Asp Ser Gly	Arg
	305	310	315
Leu Trp Leu Leu	Val Val Leu Cys Leu	Leu Arg Leu Ala Val	Thr
	320	325	330
Arg Pro His Leu	Gln Ala Tyr Leu Cys	Leu Ala Lys Ala Arg	Val
	335	340	345
Glu Gln Leu Arg	Arg Glu Ala Gly Arg	Ile Glu Ala Arg Glu	Ile
	350	355	360
Gln Gln Arg Val	Val Arg Val Tyr Cys	Tyr Val Thr Val Val	Ser
	365	370	375
Leu Gln Tyr Leu	Thr Pro Leu Ile Leu	Thr Leu Asn Cys Thr	Leu
	380	385	390
Leu Leu Lys Thr	Leu Gly Gly Tyr Ser	Trp Gly Leu Gly Pro	Ala
	395	400	405
Pro Leu Leu Ser	Pro Asp Pro Ser Ser	Ala Ser Ala Ala Pro	Ile
	410	415	420
Gly Ser Gly Glu	Asp Glu Val Gln Gln	Thr Ala Ala Arg Ile	Ala
	425	430	435
Gly Ala Leu Gly	Gly Leu Leu Thr Pro	Leu Phe Leu Arg Gly	Val
	440	445	450
Leu Ala Tyr Leu	Ile Trp Trp Thr Ala	Ala Cys Gln Leu Leu	Ala
	455	460	465
Ser Leu Phe Gly	Leu Tyr Phe His Gln	His Leu Ala Gly Ser	
	470	475	

<210> 217  
 <211> 574  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 5, 146  
 <223> unknown base

<400> 217  
 cgttngcacg cgtcaatggc ggtcctcgga gtacagctgg tggtgaccct 50  
 gctcactgcc accctcatgc acaggctggc gccacactgc tccttcgcgc 100  
 gctggctgct ctgtaacggc agtttgttcc gatacaagca cccgtnttga 150  
 ggaggagctt cgggcoctgg cggggaagcc gagggccaga ggcaggaaag 200  
 agcgggtgggc caatggcctt agtgaggaga agccactgtc tgtgccccga 250  
 gatgccccgt tccagctgga gacctgcccc ctcacgaccg tggatgccct 300  
 ggtcctgcgc ttcttcctgg agtaccagtg gtttgtggac tttgctgtgt 350

actcggggcgg cgtgtacctc ttcacagagg cctactacta catgctggga 400  
ccagccaagg agactaacat tgctgtgttc tggcgcctgc tcacagtgc 450  
cttctccatc aagatgttcc tgacagtgc acggctgtac ttcagcgccg 500  
aggagggggg tgagcgctct gtctgcctca cctttgcctt cctcttctctg 550  
ctgctggcca tgctgggtgca agcg 574

<210> 218  
<211> 2571  
<212> DNA  
<213> Homo sapiens

<400> 218  
ggttcctaca tcctctcatc tgagaatcag agagcataat cttcttacgg 50  
gcccgtgatt tattaacgtg gcttaatctg aaggttctca gtcaaattct 100  
ttgtgatcta ctgattgtgg gggcatggca aggtttgctt aaaggagctt 150  
ggctgggttg ggcccttgta gctgacagaa ggtggccagg gagaatgcag 200  
cacactgctc ggagaatgaa ggcgcttctg ttgctgggtct tgccttggct 250  
cagtcctgct aactacattg acaatgtggg caacctgcac ttctgtatt 300  
cagaactctg taaaggtgcc tccactacg gcctgaccaa agataggaag 350  
aggcgctcac aagatggctg tccagacggc tgtgcgagcc tcacagccac 400  
ggctccctcc ccagagggtt ctgcagctgc caccatctcc ttaatgacag 450  
acgagcctgg cctagacaac cctgcctacg tgtcctcggc agaggacggg 500  
cagccagcaa tcagcccagt ggactctggc cggagcaacc gaactagggc 550  
acggcccttt gagagatcca ctattagaag cagatcattt aaaaaataa 600  
atcgagcttt gagtgttctt cgaaggacaa agagcgggag tgcagttgcc 650  
aaccatgccg accagggcag ggaaaattct gaaaacacca ctgcccctga 700  
agtctttcca aggttgtacc acctgattcc agatggtgaa attaccagca 750  
tcaagatcaa tcgagtagat ccagtgaaa gcctctctat taggctggtg 800  
ggaggtagcg aaaccccaact ggtccatata attatccaac acatttatcg 850  
tgatgggggtg atcgccagag acggccggct actgccagga gacatcattc 900  
taaagggtcaa cgggatggac atcagcaatg tccctcacia ctacgctgtg 950  
cgtctctctgc ggcagccctg ccaggtgctg tggctgactg tgatgcgtga 1000  
acagaagtto cgcagcagga acaatggaca ggccccgat gcctacagac 1050  
cccgagatga cagctttcat gtgattctca acaaaagtag ccccgaggag 1100  
cagcttgga taaaactggg gcgcaagggt gatgagcctg gggttttcat 1150  
cttcaatgtg ctggatggcg gtgtggcata tcgacatggt cagcttgagg 1200

agaatgaccg tgtgttagcc atcaatggac atgatcttcg atatggcagc 1250  
 ccagaaagtg cggctcatct gattcaggcc agtgaaagac gtgttcacct 1300  
 cgtcgtgtcc cgccagggtc ggcagcggag ccctgacatc tttcaggaag 1350  
 ccggctggaa cagcaatggc agctgggtccc cagggccagg ggagaggagc 1400  
 aacactccca agcccctcca tcctacaatt acttgtcatg agaaggtggt 1450  
 aaatatccaa aaagaccccc gtgaatctct cggcatgacc gtcgcagggg 1500  
 gagcatcaca tagagaatgg gatttgccta tctatgtcat cagtgttgag 1550  
 cccggaggag tcataagcag agatggaaga ataaaaacag gtgacatttt 1600  
 gttgaatgtg gatggggtcg aactgacaga ggtcagccgg agtgaggcag 1650  
 tggcattatt gaaaagaaca tcatcctcga tagtactcaa agctttggaa 1700  
 gtcaaagagt atgagcccca ggaagactgc agcagcccag cagccctgga 1750  
 ctccaaccac aacatggccc caccagtgga ctgggtccca tcctgggtca 1800  
 tgtggctgga attaccacgg tgcttgtata actgtaaaga tattgtatta 1850  
 cgaagaaaca cagctggaag tctgggcttc tgcattgtag gaggttatga 1900  
 agaatacaat ggaaacaaac cttttttcat caaatccatt gttgaaggaa 1950  
 caccagcata caatgatgga agaattagat gtggtgatat tcttcttgct 2000  
 gtcaatggta gaagtacatc aggaatgata catgcttgct tggcaagact 2050  
 gctgaaagaa cttaaaggaa gaattactct aactattgtt tcttggcctg 2100  
 gcactttttt atagaatcaa tgatgggtca gaggaaaaca gaaaaatcac 2150  
 aaataggcta agaagttgaa aactatatt tatcttgta gtttttatat 2200  
 ttaaagaaag aatacattgt aaaaatgtca ggaaaagtat gatcatctaa 2250  
 tgaaagccag ttacacotca gaaaatatga ttccaaaaaa attaaaacta 2300  
 ctagtttttt ttcagtgtgg aggatttctc attactctac aacattgttt 2350  
 atattttttc tattcaataa aaagccctaa aacaactaaa atgattgatt 2400  
 tgtatacccc actgaattca agctgattta aatttaaaat ttggtatatg 2450  
 ctgaagtctg ccaagggtagc attatggcca tttttaattt acagctaaaa 2500  
 tattttttta aatgcattgc tgagaaacgt tgctttcatc aaacaagaat 2550  
 aaatattttt cagaagttaa a 2571

<210> 219

<211> 632

<212> PRT

<213> Homo sapiens

<400> 219

Met Lys Ala Leu Leu Leu Leu Val Leu Pro Trp Leu Ser Pro Ala

1	5	10	15
Asn Tyr Ile Asp	Asn Val Gly Asn Leu	His Phe Leu Tyr Ser	Glu
	20	25	30
Leu Cys Lys Gly	Ala Ser His Tyr Gly	Leu Thr Lys Asp Arg	Lys
	35	40	45
Arg Arg Ser Gln	Asp Gly Cys Pro Asp	Gly Cys Ala Ser Leu	Thr
	50	55	60
Ala Thr Ala Pro	Ser Pro Glu Val Ser	Ala Ala Ala Thr Ile	Ser
	65	70	75
Leu Met Thr Asp	Glu Pro Gly Leu Asp	Asn Pro Ala Tyr Val	Ser
	80	85	90
Ser Ala Glu Asp	Gly Gln Pro Ala Ile	Ser Pro Val Asp Ser	Gly
	95	100	105
Arg Ser Asn Arg	Thr Arg Ala Arg Pro	Phe Glu Arg Ser Thr	Ile
	110	115	120
Arg Ser Arg Ser	Phe Lys Lys Ile Asn	Arg Ala Leu Ser Val	Leu
	125	130	135
Arg Arg Thr Lys	Ser Gly Ser Ala Val	Ala Asn His Ala Asp	Gln
	140	145	150
Gly Arg Glu Asn	Ser Glu Asn Thr Thr	Ala Pro Glu Val Phe	Pro
	155	160	165
Arg Leu Tyr His	Leu Ile Pro Asp Gly	Glu Ile Thr Ser Ile	Lys
	170	175	180
Ile Asn Arg Val	Asp Pro Ser Glu Ser	Leu Ser Ile Arg Leu	Val
	185	190	195
Gly Gly Ser Glu	Thr Pro Leu Val His	Ile Ile Ile Gln His	Ile
	200	205	210
Tyr Arg Asp Gly	Val Ile Ala Arg Asp	Gly Arg Leu Leu Pro	Gly
	215	220	225
Asp Ile Ile Leu	Lys Val Asn Gly Met	Asp Ile Ser Asn Val	Pro
	230	235	240
His Asn Tyr Ala	Val Arg Leu Leu Arg	Gln Pro Cys Gln Val	Leu
	245	250	255
Trp Leu Thr Val	Met Arg Glu Gln Lys	Phe Arg Ser Arg Asn	Asn
	260	265	270
Gly Gln Ala Pro	Asp Ala Tyr Arg Pro	Arg Asp Asp Ser Phe	His
	275	280	285
Val Ile Leu Asn	Lys Ser Ser Pro Glu	Glu Gln Leu Gly Ile	Lys
	290	295	300
Leu Val Arg Lys	Val Asp Glu Pro Gly	Val Phe Ile Phe Asn	Val
	305	310	315
Leu Asp Gly Gly	Val Ala Tyr Arg His	Gly Gln Leu Glu Glu	Asn

320										325					330				
Asp	Arg	Val	Leu	Ala	Ile	Asn	Gly	His	Asp	Leu	Arg	Tyr	Gly	Ser					
				335					340					345					
Pro	Glu	Ser	Ala	Ala	His	Leu	Ile	Gln	Ala	Ser	Glu	Arg	Arg	Val					
				350					355					360					
His	Leu	Val	Val	Ser	Arg	Gln	Val	Arg	Gln	Arg	Ser	Pro	Asp	Ile					
				365					370					375					
Phe	Gln	Glu	Ala	Gly	Trp	Asn	Ser	Asn	Gly	Ser	Trp	Ser	Pro	Gly					
				380					385					390					
Pro	Gly	Glu	Arg	Ser	Asn	Thr	Pro	Lys	Pro	Leu	His	Pro	Thr	Ile					
				395					400					405					
Thr	Cys	His	Glu	Lys	Val	Val	Asn	Ile	Gln	Lys	Asp	Pro	Gly	Glu					
				410					415					420					
Ser	Leu	Gly	Met	Thr	Val	Ala	Gly	Gly	Ala	Ser	His	Arg	Glu	Trp					
				425					430					435					
Asp	Leu	Pro	Ile	Tyr	Val	Ile	Ser	Val	Glu	Pro	Gly	Gly	Val	Ile					
				440					445					450					
Ser	Arg	Asp	Gly	Arg	Ile	Lys	Thr	Gly	Asp	Ile	Leu	Leu	Asn	Val					
				455					460					465					
Asp	Gly	Val	Glu	Leu	Thr	Glu	Val	Ser	Arg	Ser	Glu	Ala	Val	Ala					
				470					475					480					
Leu	Leu	Lys	Arg	Thr	Ser	Ser	Ser	Ile	Val	Leu	Lys	Ala	Leu	Glu					
				485					490					495					
Val	Lys	Glu	Tyr	Glu	Pro	Gln	Glu	Asp	Cys	Ser	Ser	Pro	Ala	Ala					
				500					505					510					
Leu	Asp	Ser	Asn	His	Asn	Met	Ala	Pro	Pro	Ser	Asp	Trp	Ser	Pro					
				515					520					525					
Ser	Trp	Val	Met	Trp	Leu	Glu	Leu	Pro	Arg	Cys	Leu	Tyr	Asn	Cys					
				530					535					540					
Lys	Asp	Ile	Val	Leu	Arg	Arg	Asn	Thr	Ala	Gly	Ser	Leu	Gly	Phe					
				545					550					555					
Cys	Ile	Val	Gly	Gly	Tyr	Glu	Glu	Tyr	Asn	Gly	Asn	Lys	Pro	Phe					
				560					565					570					
Phe	Ile	Lys	Ser	Ile	Val	Glu	Gly	Thr	Pro	Ala	Tyr	Asn	Asp	Gly					
				575					580					585					
Arg	Ile	Arg	Cys	Gly	Asp	Ile	Leu	Leu	Ala	Val	Asn	Gly	Arg	Ser					
				590					595					600					
Thr	Ser	Gly	Met	Ile	His	Ala	Cys	Leu	Ala	Arg	Leu	Leu	Lys	Glu					
				605					610					615					
Leu	Lys	Gly	Arg	Ile	Thr	Leu	Thr	Ile	Val	Ser	Trp	Pro	Gly	Thr					
				620					625					630					

Phe Leu



<210> 220  
 <211> 773  
 <212> DNA  
 <213> Homo sapiens

<400> 220  
 ccaaagtgat catttgaaaa agagatatcc acatottcaa gcccatataa 50  
 aggatagaag ctgcacaggg cagctttact tactccagca ccttcctctc 100  
 ccaggcaaat ggtgctgacc atctttggga tacaatctca tggatacgag 150  
 gtttttaaca tcatcagccc aagcaacaat ggtggcaatg ttcaggagac 200  
 agtgacaatt gataatgaaa aaaataccgc catcgттаac atccatgcag 250  
 gatcatgctc ttctaccaca atttttgact ataaacatgg ctacattgca 300  
 tccaggggtgc tctcccgaag agcctgcttt atcctgaaga tggaccatca 350  
 gaacatccct cctctgaaca atctccaatg gtacatctat gagaaacagg 400  
 ctctggacaa catgttctcc aacaaatata cctgggtcaa gtacaaccct 450  
 ctggagtctc tgatcaaaga cgtggattgg ttcttgcttg ggtcacccat 500  
 tgagaaactc tgcaaacata tccctttgta taagggggaa gtggttgaaa 550  
 acacacataa tgtcgtgtgt ggaggctgtg caaaggctgg gctcctgggc 600  
 atcttgggaa tttcaatctg tgcagacatt catgtttagg atgattagcc 650  
 ctcttgtttt atcttttcaa agaaatacat ccttggttta cactcaaaag 700  
 tcaaattaaa ttctttccca atgccccaac taattttgag attcagtcag 750  
 aaaatataaa tgctgtattt ata 773

<210> 221  
 <211> 184  
 <212> PRT  
 <213> Homo sapiens

<400> 221  
 Met Lys Ile Leu Val Ala Phe Leu Val Val Leu Thr Ile Phe Gly  
 1 5 10 15  
 Ile Gln Ser His Gly Tyr Glu Val Phe Asn Ile Ile Ser Pro Ser  
 20 25 30  
 Asn Asn Gly Gly Asn Val Gln Glu Thr Val Thr Ile Asp Asn Glu  
 35 40 45  
 Lys Asn Thr Ala Ile Val Asn Ile His Ala Gly Ser Cys Ser Ser  
 50 55 60  
 Thr Thr Ile Phe Asp Tyr Lys His Gly Tyr Ile Ala Ser Arg Val  
 65 70 75  
 Leu Ser Arg Arg Ala Cys Phe Ile Leu Lys Met Asp His Gln Asn  
 80 85 90

Ile	Pro	Pro	Leu	Asn	Asn	Leu	Gln	Trp	Tyr	Ile	Tyr	Glu	Lys	Gln
				95					100					105
Ala	Leu	Asp	Asn	Met	Phe	Ser	Asn	Lys	Tyr	Thr	Trp	Val	Lys	Tyr
				110					115					120
Asn	Pro	Leu	Glu	Ser	Leu	Ile	Lys	Asp	Val	Asp	Trp	Phe	Leu	Leu
				125					130					135
Gly	Ser	Pro	Ile	Glu	Lys	Leu	Cys	Lys	His	Ile	Pro	Leu	Tyr	Lys
				140					145					150
Gly	Glu	Val	Val	Glu	Asn	Thr	His	Asn	Val	Gly	Ala	Gly	Gly	Cys
				155					160					165
Ala	Lys	Ala	Gly	Leu	Leu	Gly	Ile	Leu	Gly	Ile	Ser	Ile	Cys	Ala
				170					175					180

Asp Ile His Val

<210> 222  
 <211> 992  
 <212> DNA  
 <213> Homo sapiens

<400> 222  
 ggcacgagcc aggaactagg aggttctcac tgcccagagca gaggccctac 50  
 acccaccgag gcatggggct ccttgggctg ttctgcttgg cctgtgtggc 100  
 tgccagcagc ttctccaagg cacgggagga agaaattacc cctgtggtct 150  
 ccattgccta caaagtcctg gaagttttcc ccaaaggccg ctgggtgctc 200  
 ataacctgct gtgcacccca gccaccaccg cccatcacct attccctctg 250  
 tggaaccaag aacatcaagg tggccaagaa ggtggtgaag acccagagc 300  
 cggcctcctt caacctcaac gtcacactca agtccagtcc agacctgctc 350  
 acctacttct gccgggcgtc ctccacctca ggtgcccatg tggacagtgc 400  
 caggctacag atgcactggg agctgtggtc caagccagtg tctgagctgc 450  
 gggccaactt cactctgcag gacagagggg caggccccag ggtggagatg 500  
 atctgccagg cgtcctcggg cagcccacct atcaccaaca gcctgatcgg 550  
 gaaggatggg caggtccacc tgcagcagag accatgccac aggcagcctg 600  
 ccaacttctc cttcctgccg agccagacat cggactggtt ctggtgccag 650  
 gctgcaaaca acgccaatgt ccagcacagc gccctcacag tggtgccccc 700  
 aggtggtgac cagaagatgg aggactggca gggccccctg gagagcccca 750  
 tccttgctt gccgtctac aggagcacc gccgtctgag tgaagaggag 800  
 tttggggggt tcaggatagg gaatggggag gtcagaggac gcaaagcagc 850  
 agccatgtag aatgaaccgt ccagagagcc aagcacggca gaggactgca 900

ggccatcagc gtgcactgtt cgtatttggg gttcatgcaa aatgagtgtg 950

ttttagctgc tcttgccaca aaaaaaaaaa aaaaaaaaaa aa 992

<210> 223

<211> 265

<212> PRT

<213> Homo sapiens

<400> 223

Met	Gly	Leu	Pro	Gly	Leu	Phe	Cys	Leu	Ala	Val	Leu	Ala	Ala	Ser	
1				5					10					15	
Ser	Phe	Ser	Lys	Ala	Arg	Glu	Glu	Glu	Ile	Thr	Pro	Val	Val	Ser	
				20					25					30	
Ile	Ala	Tyr	Lys	Val	Leu	Glu	Val	Phe	Pro	Lys	Gly	Arg	Trp	Val	
				35					40					45	
Leu	Ile	Thr	Cys	Cys	Ala	Pro	Gln	Pro	Pro	Pro	Pro	Ile	Thr	Tyr	
				50					55					60	
Ser	Leu	Cys	Gly	Thr	Lys	Asn	Ile	Lys	Val	Ala	Lys	Lys	Val	Val	
				65					70					75	
Lys	Thr	His	Glu	Pro	Ala	Ser	Phe	Asn	Leu	Asn	Val	Thr	Leu	Lys	
				80					85					90	
Ser	Ser	Pro	Asp	Leu	Leu	Thr	Tyr	Phe	Cys	Arg	Ala	Ser	Ser	Thr	
				95					100					105	
Ser	Gly	Ala	His	Val	Asp	Ser	Ala	Arg	Leu	Gln	Met	His	Trp	Glu	
				110					115					120	
Leu	Trp	Ser	Lys	Pro	Val	Ser	Glu	Leu	Arg	Ala	Asn	Phe	Thr	Leu	
				125					130					135	
Gln	Asp	Arg	Gly	Ala	Gly	Pro	Arg	Val	Glu	Met	Ile	Cys	Gln	Ala	
				140					145					150	
Ser	Ser	Gly	Ser	Pro	Pro	Ile	Thr	Asn	Ser	Leu	Ile	Gly	Lys	Asp	
				155					160					165	
Gly	Gln	Val	His	Leu	Gln	Gln	Arg	Pro	Cys	His	Arg	Gln	Pro	Ala	
				170					175					180	
Asn	Phe	Ser	Phe	Leu	Pro	Ser	Gln	Thr	Ser	Asp	Trp	Phe	Trp	Cys	
				185					190					195	
Gln	Ala	Ala	Asn	Asn	Ala	Asn	Val	Gln	His	Ser	Ala	Leu	Thr	Val	
				200					205					210	
Val	Pro	Pro	Gly	Gly	Asp	Gln	Lys	Met	Glu	Asp	Trp	Gln	Gly	Pro	
				215					220					225	
Leu	Glu	Ser	Pro	Ile	Leu	Ala	Leu	Pro	Leu	Tyr	Arg	Ser	Thr	Arg	
				230					235					240	
Arg	Leu	Ser	Glu	Glu	Glu	Phe	Gly	Gly	Phe	Arg	Ile	Gly	Asn	Gly	
				245					250					255	
Glu	Val	Arg	Gly	Arg	Lys	Ala	Ala	Ala	Met						
				260					265						

<210> 224  
<211> 1297  
<212> DNA  
<213> Homo sapiens

<400> 224  
ggtccttaat ggcagcagcc gccgctacca agatccttct gtgcctcccg 50  
cttctgctcc tgctgtccgg ctggtcccgg gctgggcgag ccgaccctca 100  
ctctctttgc tatgacatca ccgtcatccc taagttcaga cctggaccac 150  
ggtggtgtgc ggttcaaggc cagggtggatg aaaagacttt tcttcactat 200  
gactgtggca acaagacagt cacacctgtc agtcccctgg ggaagaaact 250  
aaatgtcaca acggcctgga aagcacagaa ccagtgactg agagaggtgg 300  
tggacatact tacagagcaa ctgcgtgaca ttcagctgga gaattacaca 350  
cccaaggaac ccctcaccct gcaggcaagg atgtcttgtg agcagaaagc 400  
tgaaggacac agcagtggat cttggcagtt cagtttcgat gggcagatct 450  
tcctcctctt tgactcagag aagagaatgt ggacaacggt tcatcctgga 500  
gccagaaaga tgaaagaaaa gtgggagaat gacaagggtg tggccatgtc 550  
cttccattac ttctcaatgg gagactgtat aggatggctt gaggacttct 600  
tgatgggcat ggacagcacc ctggagccaa gtgcaggagc accactcgcc 650  
atgtcctcag gcacaacca actcagggcc acagccacca ccctcatcct 700  
ttgtgcctc ctcatcatcc tcccctgctt catcctccct ggcattctgag 750  
gagagtcctt tagagtgaca ggttaaagct gatacaaaa ggctcctgtg 800  
agcacggtct tgatcaaact cggccttctg tctggccagc tgcccacgac 850  
ctacggtgta tgtccagtgg cctccagcag atcatgatga catcatggac 900  
ccaatagctc attcactgcc ttgattcctt ttgccaacaa ttttaccagc 950  
agttatacct aacatattat gcaattttct cttggtgcta cctgatggaa 1000  
ttcctgcact taaagttctg gctgactaaa caagatatat cattttcttt 1050  
cttctctttt tgtttggaat atcaagtact tctttgaatg atgatctctt 1100  
tcttgcaaat gatattgtca gtaaaataat cacgttagac ttcagacctc 1150  
tggggattct ttccgtgtcc tgaaagagaa tttttaaat atttaataag 1200  
aaaaaattta tattaatgat tgtttccttt agtaatttat tgttctgtac 1250  
tgatatttaa ataaagagtt ctatttccca aaaaaaaaaa aaaaaaa 1297

<210> 225  
<211> 246  
<212> PRT  
<213> Homo sapiens

<400> 225

Met Ala Ala Ala Ala Thr Lys Ile Leu Leu Cys Leu Pro Leu  
1 5 10 15  
Leu Leu Leu Leu Ser Gly Trp Ser Arg Ala Gly Arg Ala Asp Pro  
20 25 30  
His Ser Leu Cys Tyr Asp Ile Thr Val Ile Pro Lys Phe Arg Pro  
35 40 45  
Gly Pro Arg Trp Cys Ala Val Gln Gly Gln Val Asp Glu Lys Thr  
50 55 60  
Phe Leu His Tyr Asp Cys Gly Asn Lys Thr Val Thr Pro Val Ser  
65 70 75  
Pro Leu Gly Lys Lys Leu Asn Val Thr Thr Ala Trp Lys Ala Gln  
80 85 90  
Asn Pro Val Leu Arg Glu Val Val Asp Ile Leu Thr Glu Gln Leu  
95 100 105  
Arg Asp Ile Gln Leu Glu Asn Tyr Thr Pro Lys Glu Pro Leu Thr  
110 115 120  
Leu Gln Ala Arg Met Ser Cys Glu Gln Lys Ala Glu Gly His Ser  
125 130 135  
Ser Gly Ser Trp Gln Phe Ser Phe Asp Gly Gln Ile Phe Leu Leu  
140 145 150  
Phe Asp Ser Glu Lys Arg Met Trp Thr Thr Val His Pro Gly Ala  
155 160 165  
Arg Lys Met Lys Glu Lys Trp Glu Asn Asp Lys Val Val Ala Met  
170 175 180  
Ser Phe His Tyr Phe Ser Met Gly Asp Cys Ile Gly Trp Leu Glu  
185 190 195  
Asp Phe Leu Met Gly Met Asp Ser Thr Leu Glu Pro Ser Ala Gly  
200 205 210  
Ala Pro Leu Ala Met Ser Ser Gly Thr Thr Gln Leu Arg Ala Thr  
215 220 225  
Ala Thr Thr Leu Ile Leu Cys Cys Leu Leu Ile Ile Leu Pro Cys  
230 235 240  
Phe Ile Leu Pro Gly Ile  
245

<210> 226

<211> 735

<212> DNA

<213> Homo sapiens

<400> 226

gggaaagcca tttcgaaaac ccattctatac aaactatata ttttcatttc 50

tgtgtgctagc tgccttgggc ctcacaattt tcattctggtt ttctgacttt 100

caagttatat accgtggaat ggagttgatc ccaaccataa catcgtggag 150

ggttttaatt ttggtggtag ccctcaccaca attctggtgt ggctttcttt 200  
 gcagaggatt ccaccttcaa aatcatgaac tctggctgtt gatcaaaaga 250  
 gaatttggat tctactctaa aagtcaatat aggacttggc aaaagaagct 300  
 agcagaagac tcaacctggc ctcccataaa caggacagat tattcaggtg 350  
 atggcaaaaa tggattctac atcaacggag gctatgaaag ccatgaacag 400  
 attccaaaaa gaaaactcaa attgggaggc caaccacag aacagcattt 450  
 ctgggccagg ctgtaatcag aattgtcgtc gtacatgctc aacagcattg 500  
 cttttttccc caaaattaac acattgtgga gaagtgatga tactctcccc 550  
 ttacctttcc tctctccatt caagcattca aagtatattt tcaatgaatt 600  
 aaaccttgca gcaagggacc ttagataggc ttattctgac tgtatgcttt 650  
 accaatgaga gaaaaaaatg catttctgt atcatccttt tcaataaact 700  
 gtattcattt tgaaaaaaaa aaaaaaaaaa aaaaa 735

<210> 227  
 <211> 115  
 <212> PRT  
 <213> Homo sapiens

<400> 227  
 Met Glu Leu Ile Pro Thr Ile Thr Ser Trp Arg Val Leu Ile Leu  
 1 5 10 15  
 Val Val Ala Leu Thr Gln Phe Trp Cys Gly Phe Leu Cys Arg Gly  
 20 25 30  
 Phe His Leu Gln Asn His Glu Leu Trp Leu Leu Ile Lys Arg Glu  
 35 40 45  
 Phe Gly Phe Tyr Ser Lys Ser Gln Tyr Arg Thr Trp Gln Lys Lys  
 50 55 60  
 Leu Ala Glu Asp Ser Thr Trp Pro Pro Ile Asn Arg Thr Asp Tyr  
 65 70 75  
 Ser Gly Asp Gly Lys Asn Gly Phe Tyr Ile Asn Gly Gly Tyr Glu  
 80 85 90  
 Ser His Glu Gln Ile Pro Lys Arg Lys Leu Lys Leu Gly Gly Gln  
 95 100 105  
 Pro Thr Glu Gln His Phe Trp Ala Arg Leu  
 110 115

<210> 228  
 <211> 2185  
 <212> DNA  
 <213> Homo sapiens

<400> 228  
 gttctccttt ccgagccaaa atcccaggcg atggtgaatt atgaacgtgc 50  
 cacaccatga agctcttgtg gcaggtaact gtgcaccacc acacctggaa 100

tgccatcctg ctcccgttcg tctacctcac ggcgcaagtg tggattctgt 150  
 gtgcagccat cgctgctgcc gcctcagccg ggccccagaa ctgccccctcc 200  
 gtttgctcgt gcagtaacca gttcagcaag gtggtgtgca cgcgcggggg 250  
 cctctccgag gtcccgaggt gtattccctc gaacaccccg tacctcaacc 300  
 tcatggagaa caacatccag atgatccagg ccgacacctt ccgccacctc 350  
 caccacctgg aggtcctgca gttgggcagg aactccatcc ggcagattga 400  
 ggtggggggc ttcaacggcc tggccagcct caacaccctg gagctgttcg 450  
 acaactggct gacagtcac cctagcgggg cctttgaata cctgtccaag 500  
 ctgcgggagc tctggcttcg caacaacccc atcgaaagca tcccccttta 550  
 cgccttcaac cgggtgccct ccctcatgcg cctggacttg ggggagctca 600  
 agaagctgga gtatatctct gagggagctt ttgaggggct gttcaacctc 650  
 aagtatctga acttgggcat gtgcaacatt aaagacatgc ccaatctcac 700  
 ccccctggtg gggctggagg agctggagat gtcaggggaa cacttccctg 750  
 agatcaggcc tggctccttc catggcctga gctccctcaa gaagctctgg 800  
 gtcatgaact cacaggctag cctgattgag cggaatgctt ttgacgggct 850  
 ggcttcactt gtggaactca acttggccca caataacctc tcttctttgc 900  
 cccatgacct ctttaccctg ctgaggtacc tgggtggagt gcattctacac 950  
 cacaaccctt ggaactgtga ttgtgacatt ctgtggctag cctggtggct 1000  
 tcgagagtat ataccacca attccacctg ctgtggccgc tgtcatgctc 1050  
 ccatgcacat gcgaggccgc tacctcgtgg aggtggacca ggctccttc 1100  
 cagtgccttg ccccttcat catggacgca cctcgagacc tcaacatttc 1150  
 tgagggtcgg atggcagaac ttaagtgtcg gactccccct atgtcctccg 1200  
 tgaagtgggt gctgccaat gggacagtgc tcagccacgc ctcccgcac 1250  
 ccaaggatct ctgtcctcaa cgacggcacc ttgaactttt cccacgtgct 1300  
 gctttcagac actggggtgt acacatgcat ggtgaccaat gttgcaggca 1350  
 actccaacgc ctcggcctac ctoaatgtga gcacggctga gcttaacacc 1400  
 tccaactaca gottcttcac cacagtaaca gtggagacca cggagatctc 1450  
 gcctgaggac acaacgcgaa agtacaagcc tgttctacc acgtccactg 1500  
 gttaccagcc ggcatatacc acctctacca cgggtgctcat tcagactacc 1550  
 cgtgtgcca agcaggtggc agtaccgcg acagacacca ctgacaagat 1600  
 gcagaccagc ctggatgaag tcatgaagac caccaagatc atcattggct 1650  
 gctttgtggc agtgactctg ctagctgccg ccatgttgat tgtcttctat 1700

aaacttcgta agcggcacca gcagcggagt acagtcacag ccgcccggac 1750  
 tgttgagata atccaggtgg acgaagacat cccagcagca acatccgcag 1800  
 cagcaacagc agctccgtcc ggtgtatcag gtgagggggc agtagtgctg 1850  
 cccacaattc atgaccatat taactacaac acctacaaac cagcacatgg 1900  
 ggcccactgg acagaaaaca gcctggggaa ctctctgcac cccacagtca 1950  
 ccactatctc tgaaccttat ataattcaga cccataccaa ggacaaggta 2000  
 caggaaactc aaatatgact cccctcccc aaaaaactta taaaatgcaa 2050  
 tagaatgcac acaaagacag caacttttgt acagagtggg gagagacttt 2100  
 ttcttgtata tgcttatata ttaagtctat gggctgggta aaaaaaacag 2150  
 attatattaa aatttaaaga caaaaagtca aaaca 2185

<210> 229

<211> 653

<212> PRT

<213> Homo sapiens

<400> 229

Met	Lys	Leu	Leu	Trp	Gln	Val	Thr	Val	His	His	His	Thr	Trp	Asn
1				5					10					15
Ala	Ile	Leu	Leu	Pro	Phe	Val	Tyr	Leu	Thr	Ala	Gln	Val	Trp	Ile
				20					25					30
Leu	Cys	Ala	Ala	Ile	Ala	Ala	Ala	Ala	Ser	Ala	Gly	Pro	Gln	Asn
				35					40					45
Cys	Pro	Ser	Val	Cys	Ser	Cys	Ser	Asn	Gln	Phe	Ser	Lys	Val	Val
				50					55					60
Cys	Thr	Arg	Arg	Gly	Leu	Ser	Glu	Val	Pro	Gln	Gly	Ile	Pro	Ser
				65					70					75
Asn	Thr	Arg	Tyr	Leu	Asn	Leu	Met	Glu	Asn	Asn	Ile	Gln	Met	Ile
				80					85					90
Gln	Ala	Asp	Thr	Phe	Arg	His	Leu	His	His	Leu	Glu	Val	Leu	Gln
				95					100					105
Leu	Gly	Arg	Asn	Ser	Ile	Arg	Gln	Ile	Glu	Val	Gly	Ala	Phe	Asn
				110					115					120
Gly	Leu	Ala	Ser	Leu	Asn	Thr	Leu	Glu	Leu	Phe	Asp	Asn	Trp	Leu
				125					130					135
Thr	Val	Ile	Pro	Ser	Gly	Ala	Phe	Glu	Tyr	Leu	Ser	Lys	Leu	Arg
				140					145					150
Glu	Leu	Trp	Leu	Arg	Asn	Asn	Pro	Ile	Glu	Ser	Ile	Pro	Ser	Tyr
				155					160					165
Ala	Phe	Asn	Arg	Val	Pro	Ser	Leu	Met	Arg	Leu	Asp	Leu	Gly	Glu
				170					175					180
Leu	Lys	Lys	Leu	Glu	Tyr	Ile	Ser	Glu	Gly	Ala	Phe	Glu	Gly	Leu



185					190					195				
Phe	Asn	Leu	Lys	Tyr	Leu	Asn	Leu	Gly	Met	Cys	Asn	Ile	Lys	Asp
				200					205					210
Met	Pro	Asn	Leu	Thr	Pro	Leu	Val	Gly	Leu	Glu	Glu	Leu	Glu	Met
				215					220					225
Ser	Gly	Asn	His	Phe	Pro	Glu	Ile	Arg	Pro	Gly	Ser	Phe	His	Gly
				230					235					240
Leu	Ser	Ser	Leu	Lys	Lys	Leu	Trp	Val	Met	Asn	Ser	Gln	Val	Ser
				245					250					255
Leu	Ile	Glu	Arg	Asn	Ala	Phe	Asp	Gly	Leu	Ala	Ser	Leu	Val	Glu
				260					265					270
Leu	Asn	Leu	Ala	His	Asn	Asn	Leu	Ser	Ser	Leu	Pro	His	Asp	Leu
				275					280					285
Phe	Thr	Pro	Leu	Arg	Tyr	Leu	Val	Glu	Leu	His	Leu	His	His	Asn
				290					295					300
Pro	Trp	Asn	Cys	Asp	Cys	Asp	Ile	Leu	Trp	Leu	Ala	Trp	Trp	Leu
				305					310					315
Arg	Glu	Tyr	Ile	Pro	Thr	Asn	Ser	Thr	Cys	Cys	Gly	Arg	Cys	His
				320					325					330
Ala	Pro	Met	His	Met	Arg	Gly	Arg	Tyr	Leu	Val	Glu	Val	Asp	Gln
				335					340					345
Ala	Ser	Phe	Gln	Cys	Ser	Ala	Pro	Phe	Ile	Met	Asp	Ala	Pro	Arg
				350					355					360
Asp	Leu	Asn	Ile	Ser	Glu	Gly	Arg	Met	Ala	Glu	Leu	Lys	Cys	Arg
				365					370					375
Thr	Pro	Pro	Met	Ser	Ser	Val	Lys	Trp	Leu	Leu	Pro	Asn	Gly	Thr
				380					385					390
Val	Leu	Ser	His	Ala	Ser	Arg	His	Pro	Arg	Ile	Ser	Val	Leu	Asn
				395					400					405
Asp	Gly	Thr	Leu	Asn	Phe	Ser	His	Val	Leu	Leu	Ser	Asp	Thr	Gly
				410					415					420
Val	Tyr	Thr	Cys	Met	Val	Thr	Asn	Val	Ala	Gly	Asn	Ser	Asn	Ala
				425					430					435
Ser	Ala	Tyr	Leu	Asn	Val	Ser	Thr	Ala	Glu	Leu	Asn	Thr	Ser	Asn
				440					445					450
Tyr	Ser	Phe	Phe	Thr	Thr	Val	Thr	Val	Glu	Thr	Thr	Glu	Ile	Ser
				455					460					465
Pro	Glu	Asp	Thr	Thr	Arg	Lys	Tyr	Lys	Pro	Val	Pro	Thr	Thr	Ser
				470					475					480
Thr	Gly	Tyr	Gln	Pro	Ala	Tyr	Thr	Thr	Ser	Thr	Thr	Val	Leu	Ile
				485					490					495
Gln	Thr	Thr	Arg	Val	Pro	Lys	Gln	Val	Ala	Val	Pro	Ala	Thr	Asp

	500	505	510
Thr Thr Asp Lys	Met Gln Thr Ser Leu	Asp Glu Val Met Lys	Thr
	515	520	525
Thr Lys Ile Ile	Ile Gly Cys Phe Val	Ala Val Thr Leu Leu	Ala
	530	535	540
Ala Ala Met Leu	Ile Val Phe Tyr Lys	Leu Arg Lys Arg His	Gln
	545	550	555
Gln Arg Ser Thr	Val Thr Ala Ala Arg	Thr Val Glu Ile Ile	Gln
	560	565	570
Val Asp Glu Asp	Ile Pro Ala Ala Thr	Ser Ala Ala Ala Thr	Ala
	575	580	585
Ala Pro Ser Gly	Val Ser Gly Glu Gly	Ala Val Val Leu Pro	Thr
	590	595	600
Ile His Asp His	Ile Asn Tyr Asn Thr	Tyr Lys Pro Ala His	Gly
	605	610	615
Ala His Trp Thr	Glu Asn Ser Leu Gly	Asn Ser Leu His Pro	Thr
	620	625	630
Val Thr Thr Ile	Ser Glu Pro Tyr Ile	Ile Gln Thr His Thr	Lys
	635	640	645
Asp Lys Val Gln	Glu Thr Gln Ile		
	650		

<210> 230  
 <211> 2846  
 <212> DNA  
 <213> Homo sapiens

<400> 230  
 cgctcgggca ccagccgcgg caaggatgga gctgggttgc tggacgcagt 50  
 tggggctcac ttttcttcag ctcttctca tctcgtcctt gccagagag 100  
 tacacagtca ttaatgaagc ctgccctgga gcagagtgga atatcatgtg 150  
 tcgggagtgc tgtgaatatg atcagattga gtgcgtctgc cccggaaaga 200  
 gggaagtctg gggttatacc atcccttgct gcaggaatga ggagaatgag 250  
 tgtgactcct gcctgatcca cccaggttgt accatctttg aaaactgcaa 300  
 gagctgccga aatggctcat gggggggtac cttggatgac ttctatgtga 350  
 aggggttcta ctgtgcagag tgccgagcag gctggtacgg aggagactgc 400  
 atgcgatgtg gccaggttct gcgagcccca aagggtcaga ttttgttgga 450  
 aagctatccc ctaaatgctc actgtgaatg gaccattcat gctaaacctg 500  
 ggtttgtcat ccaactaaga tttgtcatgt tgagtctgga gtttgactac 550  
 atgtgccagt atgactatgt tgaggttcgt gatggagaca accgcgatgg 600  
 ccagatcatc aagcgtgtct gtggcaacga gcggccagct cctatccaga 650

gcataggatc ctactccac gtctcttcc actccgatgg ctccaagaat 700  
 tttagcgggt tccatgccat ttatgaggag atcacagcat gctctcatc 750  
 cccttgtttc catgacggca cgtgcgtcct tgacaaggct ggatottaca 800  
 agtgtgcctg cttggcaggc tatactgggc agcgtctgtga aaatctcctt 850  
 gaagaaagaa actgctcaga ccctgggggc ccagtcaatg ggtaccagaa 900  
 aataacaggg ggccctgggc ttatcaacgg acgcatgct aaaattggca 950  
 ccgtggtgtc tttcttttgt aacaactcct atgttcttag tggcaatgag 1000  
 aaaagaactt gccagcagaa tggagagtgg tcagggaac agcccatctg 1050  
 cataaaagcc tgccgagaac caaagatttc agacctggtg agaaggagag 1100  
 ttcttccgat gcaggttcag tcaagggaga caccattaca ccagctatac 1150  
 tcagcggcct tcagcaagca gaaactgcag agtgccccta ccaagaagcc 1200  
 agcccttccc ttggagatc tgcccatggg ataccaacat ctgcataccc 1250  
 agctccagta tgagtgcac tcaccttctt accgcgcctt gggcagcagc 1300  
 aggaggacat gtctgaggac tgggaagtgg agtgggcggg caccatcctg 1350  
 catccctatc tgccgggaaa ttgagaacat cactgctcca aagaccaag 1400  
 ggttgcgctg gccgtggcag gcagccatct acaggaggac cagcgggggtg 1450  
 catgacggca gcctacacaa gggagcgtgg ttcttagtct gcagcgggtg 1500  
 cctggtgaat gagcgactg tgggtggtgg tgccactgt gttactgacc 1550  
 tggggaaggt caccatgatc aagacagcag acctgaaagt tgttttgggg 1600  
 aaattctacc gggatgatga ccgggatgag aagaccatcc agagcctaca 1650  
 gatttctgct atcattctgc atcccaacta tgaccccatc ctgcttgatg 1700  
 ctgacatcgc catcctgaag ctctagaca aggccgtat cagcaccga 1750  
 gtccagccca tctgcctcgc tgccagtcgg gatctcagca cttccttcca 1800  
 ggagtccac atcactgtgg ctggctggaa tgtcctggca gacgtgagga 1850  
 gccctggctt caagaacgac acactgcgt ctgggggtgg cagtgtggtg 1900  
 gactcgtgc tgtgtgagga gcagcatgag gaccatggca tccagtgag 1950  
 tgtactgat aacatgttct gtgccagctg ggaaccact gcccttctg 2000  
 atatctgcac tgcagagaca ggaggcatcg cggctgtgtc cttcccgga 2050  
 cgagcatctc ctgagccaag ctggcatctg atgggactgg tcagctggag 2100  
 ctatgataaa acatgcagcc acaggctctc cactgccttc accaagggtg 2150  
 tgccttttaa agactggatt gaaagaaata tgaaatgaac catgctcatg 2200  
 cactccttga gaagtgttcc tgtatatccg tctgtacgtg tgcattgag 2250

tgaagcagtg tgggcctgaa gtgtgatttg gcctgtgaac ttggctgtgc 2300  
cagggtcttct gacttcaggg acaaaactca gtgaaggggtg agtagacctc 2350  
cattgctgggt aggctgatgc cgcgtccact actaggacag ccaattggaa 2400  
gatgccaggg cttgcaagaa gtaagtttct tcaaagaaga ccatatacaa 2450  
aacctctcca ctccactgac ctggtgtgtct tccccactt tcagttatac 2500  
gaatgccatc agcttgacca gggaagatct ggggttcattg aggccctttt 2550  
tgaggctctc aagttctaga gagctgcctg tgggacagcc cagggcagca 2600  
gagctgggat gtggtgcatg cctttgtgta catggccaca gtacagtctg 2650  
gtcctttttcc ttccccatct cttgtacaca ttttaataaa ataagggttg 2700  
gcttctgaac tacaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2750  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2800  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa 2846

<210> 231  
<211> 720  
<212> PRT  
<213> Homo sapiens

<400> 231  
Met Glu Leu Gly Cys Trp Thr Gln Leu Gly Leu Thr Phe Leu Gln  
1 5 10 15  
Leu Leu Leu Ile Ser Ser Leu Pro Arg Glu Tyr Thr Val Ile Asn  
20 25 30  
Glu Ala Cys Pro Gly Ala Glu Trp Asn Ile Met Cys Arg Glu Cys  
35 40 45  
Cys Glu Tyr Asp Gln Ile Glu Cys Val Cys Pro Gly Lys Arg Glu  
50 55 60  
Val Val Gly Tyr Thr Ile Pro Cys Cys Arg Asn Glu Glu Asn Glu  
65 70 75  
Cys Asp Ser Cys Leu Ile His Pro Gly Cys Thr Ile Phe Glu Asn  
80 85 90  
Cys Lys Ser Cys Arg Asn Gly Ser Trp Gly Gly Thr Leu Asp Asp  
95 100 105  
Phe Tyr Val Lys Gly Phe Tyr Cys Ala Glu Cys Arg Ala Gly Trp  
110 115 120  
Tyr Gly Gly Asp Cys Met Arg Cys Gly Gln Val Leu Arg Ala Pro  
125 130 135  
Lys Gly Gln Ile Leu Leu Glu Ser Tyr Pro Leu Asn Ala His Cys  
140 145 150  
Glu Trp Thr Ile His Ala Lys Pro Gly Phe Val Ile Gln Leu Arg  
155 160 165

Phe Val Met Leu Ser Leu Glu Phe Asp Tyr Met Cys Gln Tyr Asp	170	175	180
Tyr Val Glu Val Arg Asp Gly Asp Asn Arg Asp Gly Gln Ile Ile	185	190	195
Lys Arg Val Cys Gly Asn Glu Arg Pro Ala Pro Ile Gln Ser Ile	200	205	210
Gly Ser Ser Leu His Val Leu Phe His Ser Asp Gly Ser Lys Asn	215	220	225
Phe Asp Gly Phe His Ala Ile Tyr Glu Glu Ile Thr Ala Cys Ser	230	235	240
Ser Ser Pro Cys Phe His Asp Gly Thr Cys Val Leu Asp Lys Ala	245	250	255
Gly Ser Tyr Lys Cys Ala Cys Leu Ala Gly Tyr Thr Gly Gln Arg	260	265	270
Cys Glu Asn Leu Leu Glu Glu Arg Asn Cys Ser Asp Pro Gly Gly	275	280	285
Pro Val Asn Gly Tyr Gln Lys Ile Thr Gly Gly Pro Gly Leu Ile	290	295	300
Asn Gly Arg His Ala Lys Ile Gly Thr Val Val Ser Phe Phe Cys	305	310	315
Asn Asn Ser Tyr Val Leu Ser Gly Asn Glu Lys Arg Thr Cys Gln	320	325	330
Gln Asn Gly Glu Trp Ser Gly Lys Gln Pro Ile Cys Ile Lys Ala	335	340	345
Cys Arg Glu Pro Lys Ile Ser Asp Leu Val Arg Arg Arg Val Leu	350	355	360
Pro Met Gln Val Gln Ser Arg Glu Thr Pro Leu His Gln Leu Tyr	365	370	375
Ser Ala Ala Phe Ser Lys Gln Lys Leu Gln Ser Ala Pro Thr Lys	380	385	390
Lys Pro Ala Leu Pro Phe Gly Asp Leu Pro Met Gly Tyr Gln His	395	400	405
Leu His Thr Gln Leu Gln Tyr Glu Cys Ile Ser Pro Phe Tyr Arg	410	415	420
Arg Leu Gly Ser Ser Arg Arg Thr Cys Leu Arg Thr Gly Lys Trp	425	430	435
Ser Gly Arg Ala Pro Ser Cys Ile Pro Ile Cys Gly Lys Ile Glu	440	445	450
Asn Ile Thr Ala Pro Lys Thr Gln Gly Leu Arg Trp Pro Trp Gln	455	460	465
Ala Ala Ile Tyr Arg Arg Thr Ser Gly Val His Asp Gly Ser Leu	470	475	480

His	Lys	Gly	Ala	Trp	Phe	Leu	Val	Cys	Ser	Gly	Ala	Leu	Val	Asn
				485					490					495
Glu	Arg	Thr	Val	Val	Val	Ala	Ala	His	Cys	Val	Thr	Asp	Leu	Gly
				500					505					510
Lys	Val	Thr	Met	Ile	Lys	Thr	Ala	Asp	Leu	Lys	Val	Val	Leu	Gly
				515					520					525
Lys	Phe	Tyr	Arg	Asp	Asp	Asp	Arg	Asp	Glu	Lys	Thr	Ile	Gln	Ser
				530					535					540
Leu	Gln	Ile	Ser	Ala	Ile	Ile	Leu	His	Pro	Asn	Tyr	Asp	Pro	Ile
				545					550					555
Leu	Leu	Asp	Ala	Asp	Ile	Ala	Ile	Leu	Lys	Leu	Leu	Asp	Lys	Ala
				560					565					570
Arg	Ile	Ser	Thr	Arg	Val	Gln	Pro	Ile	Cys	Leu	Ala	Ala	Ser	Arg
				575					580					585
Asp	Leu	Ser	Thr	Ser	Phe	Gln	Glu	Ser	His	Ile	Thr	Val	Ala	Gly
				590					595					600
Trp	Asn	Val	Leu	Ala	Asp	Val	Arg	Ser	Pro	Gly	Phe	Lys	Asn	Asp
				605					610					615
Thr	Leu	Arg	Ser	Gly	Val	Val	Ser	Val	Val	Asp	Ser	Leu	Leu	Cys
				620					625					630
Glu	Glu	Gln	His	Glu	Asp	His	Gly	Ile	Pro	Val	Ser	Val	Thr	Asp
				635					640					645
Asn	Met	Phe	Cys	Ala	Ser	Trp	Glu	Pro	Thr	Ala	Pro	Ser	Asp	Ile
				650					655					660
Cys	Thr	Ala	Glu	Thr	Gly	Gly	Ile	Ala	Ala	Val	Ser	Phe	Pro	Gly
				665					670					675
Arg	Ala	Ser	Pro	Glu	Pro	Arg	Trp	His	Leu	Met	Gly	Leu	Val	Ser
				680					685					690
Trp	Ser	Tyr	Asp	Lys	Thr	Cys	Ser	His	Arg	Leu	Ser	Thr	Ala	Phe
				695					700					705
Thr	Lys	Val	Leu	Pro	Phe	Lys	Asp	Trp	Ile	Glu	Arg	Asn	Met	Lys
				710					715					720

<210> 232

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 232

aggttcgtga tggagacaac cgcg 24

<210> 233

<211> 24

<212> DNA

<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 233  
tgtcaaggac gcactgccgt catg 24

<210> 234  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 234  
tggccagatc atcaagcgtg tctgtggcaa cgagcggcca gtcctatcc 50

<210> 235  
<211> 1964  
<212> DNA  
<213> Homo sapiens

<400> 235  
accaggcatt gtatcttcag ttgtcatcaa gttcgcaatc agattggaaa 50  
agctcaactt gaagctttct tgcctgcagt gaagcagaga gatagatatt 100  
attcacgtaa taaaaaacat gggcttcaac ctgactttcc acctttccta 150  
caaattccga ttactgttgc tgttgacttt gtgcctgaca gtggttgggt 200  
gggccaccag taactacttc gtgggtgccca ttcaagagat tcctaaagca 250  
aaggagtcca tggctaattt ccataagacc ctcatTTtTg ggaagggaaa 300  
aactctgact aatgaagcat ccacgaagaa ggtagaactt gacaactgtc 350  
cttctgtgtc tccttacctc agaggccaga gcaagctcat tttcaaacca 400  
gatctcactt tggaagaggt acaggcagaa aatcccaaag tgtccagagg 450  
ccggtatcgc cctcaggaat gtaaagcttt acagagggtc gccatcctcg 500  
ttccccaccg gaacagagag aaacacctga tgtacctgct ggaacatctg 550  
catcccttcc tgcagaggca gcagctggat tatggcatct acgtcatcca 600  
ccaggctgaa ggtaaaaagt ttaatcgagc caaactcttg aatgtgggct 650  
atctagaagc cctcaaggaa gaaaattggg actgctttat attccacgat 700  
gtggacctgg tacccgagaa tgactttaac ctttacaagt gtgaggagca 750  
tccaagcat ctggtggttg gcaggaacag cactgggtac aggttacgtt 800  
acagtggata ttttgggggt gttactgcc taagcagaga gcagtttttc 850  
aaggatgaatg gattctctaa caactactgg ggatggggag gcgaagacga 900  
tgacctcaga ctcagggttg agctccaaag aatgaaaatt tcccgcccc 950  
tgctgaagt gggtaaatat acaatggtct tccacactag agacaaaggc 1000

aatgaggtga acgcagaacg gatgaagctc ttacaccaag tgtcacgagt 1050  
ctggagaaca gatgggttga gtagttgttc ttataaatta gtatctgtgg 1100  
aacacaatcc tttatatatc aacatcacag tggattttctg gtttggtgca 1150  
tgaccctgga tcttttggtg atgtttggaa gaactgattc tttgtttgca 1200  
ataattttgg cctagagact tcaaatagta gcacacatta agaacctgtt 1250  
acagctcatt gttgagctga atttttcctt tttgtatttt cttagcagag 1300  
ctcctggtga tgtagagtat aaaacagttg taacaagaca gctttcttag 1350  
tcattttgat catgagggtt aaatattgta atatggatac ttgaaggact 1400  
ttatataaaa ggatgactca aaggataaaa tgaacgctat ttgaggactc 1450  
tgggtgaagg agattttattt aaatttgaag taatatatta tgggataaaa 1500  
ggccacagga aataagactg ctgaatgtct gagagaacca gagttgttct 1550  
cgtccaaggt agaaaggtag gaagatacaa tactgttatt cattttatcct 1600  
gtacaatcat ctgtgaagtg gtggtgtcag gtgagaaggc gtccacaaaa 1650  
gaggggagaa aaggcgacga atcaggacac agtgaacttg ggaatgaaga 1700  
ggtagcagga ggggtggagtg tcggctgcaa aggcagcagt agctgagctg 1750  
gttgcaggtg ctgatagcct tcaggggagg acctgcccag gtatgccttc 1800  
cagtgatgcc caccagagaa tacattctct attagttttt aaagagtttt 1850  
tgtaaaatga ttttgtacaa gtaggatatg aattagcagt ttacaagttt 1900  
acatattaac taataataaa tatgtctatc aaatacctct gtagtaaaat 1950  
gtgaaaaagc aaaa 1964

<210> 236  
<211> 344  
<212> PRT  
<213> Homo sapiens

<220>  
<221> Signal peptide  
<222> 1-27  
<223> Signal peptide

<220>  
<221> N-glycosylation sites  
<222> 4-7, 220-223, 335-338  
<223> N-glycosylation sites

<220>  
<221> Xylose isomerase proteins  
<222> 191-201  
<223> Xylose isomerase proteins

<400> 236  
Met Gly Phe Asn Leu Thr Phe His Leu Ser Tyr Lys Phe Arg Leu  
1 5 10 15



Leu	Leu	Leu	Leu	Thr	Leu	Cys	Leu	Thr	Val	Val	Gly	Trp	Ala	Thr	
				20					25					30	
Ser	Asn	Tyr	Phe	Val	Gly	Ala	Ile	Gln	Glu	Ile	Pro	Lys	Ala	Lys	
				35					40					45	
Glu	Phe	Met	Ala	Asn	Phe	His	Lys	Thr	Leu	Ile	Leu	Gly	Lys	Gly	
				50					55					60	
Lys	Thr	Leu	Thr	Asn	Glu	Ala	Ser	Thr	Lys	Lys	Val	Glu	Leu	Asp	
				65					70					75	
Asn	Cys	Pro	Ser	Val	Ser	Pro	Tyr	Leu	Arg	Gly	Gln	Ser	Lys	Leu	
				80					85					90	
Ile	Phe	Lys	Pro	Asp	Leu	Thr	Leu	Glu	Glu	Val	Gln	Ala	Glu	Asn	
				95					100					105	
Pro	Lys	Val	Ser	Arg	Gly	Arg	Tyr	Arg	Pro	Gln	Glu	Cys	Lys	Ala	
				110					115					120	
Leu	Gln	Arg	Val	Ala	Ile	Leu	Val	Pro	His	Arg	Asn	Arg	Glu	Lys	
				125					130					135	
His	Leu	Met	Tyr	Leu	Leu	Glu	His	Leu	His	Pro	Phe	Leu	Gln	Arg	
				140					145					150	
Gln	Gln	Leu	Asp	Tyr	Gly	Ile	Tyr	Val	Ile	His	Gln	Ala	Glu	Gly	
				155					160					165	
Lys	Ly's	Phe	Asn	Arg	Ala	Lys	Leu	Leu	Asn	Val	Gly	Tyr	Leu	Glu	
				170					175					180	
Ala	Leu	Lys	Glu	Glu	Asn	Trp	Asp	Cys	Phe	Ile	Phe	His	Asp	Val	
				185					190					195	
Asp	Leu	Val	Pro	Glu	Asn	Asp	Phe	Asn	Leu	Tyr	Lys	Cys	Glu	Glu	
				200					205					210	
His	Pro	Lys	His	Leu	Val	Val	Gly	Arg	Asn	Ser	Thr	Gly	Tyr	Arg	
				215					220					225	
Leu	Arg	Tyr	Ser	Gly	Tyr	Phe	Gly	Gly	Val	Thr	Ala	Leu	Ser	Arg	
				230					235					240	
Glu	Gln	Phe	Phe	Lys	Val	Asn	Gly	Phe	Ser	Asn	Asn	Tyr	Trp	Gly	
				245					250					255	
Trp	Gly	Gly	Glu	Asp	Asp	Asp	Leu	Arg	Leu	Arg	Val	Glu	Leu	Gln	
				260					265					270	
Arg	Met	Lys	Ile	Ser	Arg	Pro	Leu	Pro	Glu	Val	Gly	Lys	Tyr	Thr	
				275					280					285	
Met	Val	Phe	His	Thr	Arg	Asp	Lys	Gly	Asn	Glu	Val	Asn	Ala	Glu	
				290					295					300	
Arg	Met	Lys	Leu	Leu	His	Gln	Val	Ser	Arg	Val	Trp	Arg	Thr	Asp	
				305					310					315	
Gly	Leu	Ser	Ser	Cys	Ser	Tyr	Lys	Leu	Val	Ser	Val	Glu	His	Asn	
				320					325					330	

Pro Leu Tyr Ile Asn Ile Thr Val Asp Phe Trp Phe Gly Ala  
 335 340

<210> 237  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 237  
 ccttacctca gaggccagag caagc 25

<210> 238  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 238  
 gagcttcacgc cgttctgcgt tcacc 25

<210> 239  
 <211> 46  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 239  
 caggaatgta aagctttaca gagggtcgcc atcctcgttc cccacc 46

<210> 240  
 <211> 2567  
 <212> DNA  
 <213> Homo sapiens

<400> 240  
 cgtgggccgg ggtcgcgcag cgggctgtgg gcgcgcccg aggagcgcacc 50  
 gccgcagttc tcgagctcca gctgcattcc ctccgcgtcc gcccacgct 100  
 tctcccgctc cgggccccgc aatggcccag gcagtgtggt cgcgcctcgg 150  
 ccgcaccttc tggttgcct gcctcctgcc ctgggccccg gcaggggtgg 200  
 ccgcaggcct gtatgaactc aatctcacca ccgatagccc tgccaccacg 250  
 ggagcgggtg tgaccatctc ggccagcctg gtggccaagg acaacggcag 300  
 cctggccctg cccgctgacg cccacctcta ccgcttcac tggatccaca 350  
 ccccgctggg gcttactggc aagatggaga aggtctcag ctccaccatc 400  
 cgtgtggtcg gccacgtgcc cggggaattc ccggtctctg tctgggtcac 450  
 tgccgctgac tgctggatgt gccagcctgt ggccaggggc tttgtggtcc 500  
 tccccatcac agagttcctc gtgggggacc ttgttgcac ccagaacact 550

tccctaccct ggcccagctc ctatctcact aagaccgtcc tgaaagtctc 600  
 cttcctcctc caccgaccca gcaacttcct caagaccgcc ttgtttctct 650  
 acagctggga cttcggggac gggacccaga tggtgactga agactccgtg 700  
 gtctattata actattccat catcgggacc ttcaccgtga agctcaaagt 750  
 ggtggcggag tgggaagagg tggagccgga tgccacgagg gctgtgaagc 800  
 agaagaccgg ggacttctcc gcctcgtgta agctgcagga aaccttctga 850  
 ggcattcaag tgttggggcc caccctaatt cagaccttcc aaaagatgac 900  
 cgtgaccttg aacttcctgg ggagccctcc tctgactgtg tgctggcgctc 950  
 tcaagcctga gtgcctcccc ctggaggaaag gggagtgcc aacctgtgtcc 1000  
 gtggccagca cagcgtacaa cctgacccac accttcaggg accttgggga 1050  
 ctactgcttc agcatccggg ccgagaatat catcagcaag acacatcagt 1100  
 accacaagat ccagggtgtg ccctccagaa tccagccggc tgtctttgct 1150  
 ttcccatgtg ctacacttat cactgtgatg ttggccttca tcatgtacat 1200  
 gacctgctg aatgccactc agcaaaagga catggtggag aaccgggagc 1250  
 caccctctgg ggtcagggtc tgctgccaga tgtgctgtgg gcctttcttg 1300  
 ctggagactc catctgagta cctggaaatt gtctgtgaga accacgggct 1350  
 gctcccgccc ctctataagt ctgtcaaac ttacaccgtg tgagcactcc 1400  
 ccctccccac cccatctcag tggttaactga ctgctgactt ggagtttcca 1450  
 gcagggtggt gtgcaccact gaccaggagg ggttcatttg cgtggggctg 1500  
 ttggcctgga tcatccatcc atctgtacag ttcagccact gccacaagcc 1550  
 cctccctctc tgtcaccctc gacccagacc attcaccat ctgtacagtc 1600  
 cagccactga cataagcccc actcggttac caccctcttg acccctacc 1650  
 tttgaagagg ctctgtgcag gactttgatg cttgggggtg tccgtgttga 1700  
 ctctaggtg ggcttggtg cccactgcc attcctctca tattggcaca 1750  
 tctgctgtcc attgggggtt ctgagtttcc tccccagac agccctacct 1800  
 gtgccagaga gctagaaaga aggtcataaa gggtaaaaa tccataacta 1850  
 aaggttgtac acatagatgg gcacactcac agagagaagt gtgcatgtac 1900  
 acacaccaca cacacacaca cacacacaca cacagaaata taaacacatg 1950  
 cgtcacatgg gcatttcaga tgatcagctc tgtatctggt taagtcgggt 2000  
 gctgggatgc accctgcact agagctgaaa ggaaatttga cctccaagca 2050  
 gccctgacag gttctgggcc cgggccctcc ctttgtgctt tgtctctgca 2100  
 gttcttgccg cctttataag gccatcctag tccctgctgg ctggcagggg 2150

cctggatggg gggcaggact aatactgagt gattgcagag tgctttataa 2200  
 atatcacctt attttatcga aacccatctg tgaaactttc actgaggaaa 2250  
 aggccttgca gcggtagaag aggttgagtc aaggccgggc gcggtggctc 2300  
 acgcctgtaa tcccagcact ttgggaggcc gaggcgggtg gatcacgaga 2350  
 tcaggagatc gagaccaccc tggctaacac ggtgaaaccc cgtctctact 2400  
 aaaaaaatac aaaaagttag ccgggcgtgg tgggtgggtgc ctgtagtccc 2450  
 agctactcgg gaggctgagg caggagaatg gtgcgaaccc gggaggcgga 2500  
 gcttgcaagt agcccagatg gcgccactgc actccagcct gagtgcacaga 2550  
 gcgagactct gtctcca 2567

<210> 241

<211> 423

<212> PRT

<213> Homo sapiens

<400> 241

Met	Ala	Gln	Ala	Val	Trp	Ser	Arg	Leu	Gly	Arg	Ile	Leu	Trp	Leu	1	5	10	15
Ala	Cys	Leu	Leu	Pro	Trp	Ala	Pro	Ala	Gly	Val	Ala	Ala	Gly	Leu	20	25	30	
Tyr	Glu	Leu	Asn	Leu	Thr	Thr	Asp	Ser	Pro	Ala	Thr	Thr	Gly	Ala	35	40	45	
Val	Val	Thr	Ile	Ser	Ala	Ser	Leu	Val	Ala	Lys	Asp	Asn	Gly	Ser	50	55	60	
Leu	Ala	Leu	Pro	Ala	Asp	Ala	His	Leu	Tyr	Arg	Phe	His	Trp	Ile	65	70	75	
His	Thr	Pro	Leu	Val	Leu	Thr	Gly	Lys	Met	Glu	Lys	Gly	Leu	Ser	80	85	90	
Ser	Thr	Ile	Arg	Val	Val	Gly	His	Val	Pro	Gly	Glu	Phe	Pro	Val	95	100	105	
Ser	Val	Trp	Val	Thr	Ala	Ala	Asp	Cys	Trp	Met	Cys	Gln	Pro	Val	110	115	120	
Ala	Arg	Gly	Phe	Val	Val	Leu	Pro	Ile	Thr	Glu	Phe	Leu	Val	Gly	125	130	135	
Asp	Leu	Val	Val	Thr	Gln	Asn	Thr	Ser	Leu	Pro	Trp	Pro	Ser	Ser	140	145	150	
Tyr	Leu	Thr	Lys	Thr	Val	Leu	Lys	Val	Ser	Phe	Leu	Leu	His	Asp	155	160	165	
Pro	Ser	Asn	Phe	Leu	Lys	Thr	Ala	Leu	Phe	Leu	Tyr	Ser	Trp	Asp	170	175	180	
Phe	Gly	Asp	Gly	Thr	Gln	Met	Val	Thr	Glu	Asp	Ser	Val	Val	Tyr	185	190	195	

Tyr	Asn	Tyr	Ser	Ile	Ile	Gly	Thr	Phe	Thr	Val	Lys	Leu	Lys	Val	200	205	210
Val	Ala	Glu	Trp	Glu	Glu	Val	Glu	Pro	Asp	Ala	Thr	Arg	Ala	Val	215	220	225
Lys	Gln	Lys	Thr	Gly	Asp	Phe	Ser	Ala	Ser	Leu	Lys	Leu	Gln	Glu	230	235	240
Thr	Leu	Arg	Gly	Ile	Gln	Val	Leu	Gly	Pro	Thr	Leu	Ile	Gln	Thr	245	250	255
Phe	Gln	Lys	Met	Thr	Val	Thr	Leu	Asn	Phe	Leu	Gly	Ser	Pro	Pro	260	265	270
Leu	Thr	Val	Cys	Trp	Arg	Leu	Lys	Pro	Glu	Cys	Leu	Pro	Leu	Glu	275	280	285
Glu	Gly	Glu	Cys	His	Pro	Val	Ser	Val	Ala	Ser	Thr	Ala	Tyr	Asn	290	295	300
Leu	Thr	His	Thr	Phe	Arg	Asp	Pro	Gly	Asp	Tyr	Cys	Phe	Ser	Ile	305	310	315
Arg	Ala	Glu	Asn	Ile	Ile	Ser	Lys	Thr	His	Gln	Tyr	His	Lys	Ile	320	325	330
Gln	Val	Trp	Pro	Ser	Arg	Ile	Gln	Pro	Ala	Val	Phe	Ala	Phe	Pro	335	340	345
Cys	Ala	Thr	Leu	Ile	Thr	Val	Met	Leu	Ala	Phe	Ile	Met	Tyr	Met	350	355	360
Thr	Leu	Arg	Asn	Ala	Thr	Gln	Gln	Lys	Asp	Met	Val	Glu	Asn	Pro	365	370	375
Glu	Pro	Pro	Ser	Gly	Val	Arg	Cys	Cys	Cys	Gln	Met	Cys	Cys	Gly	380	385	390
Pro	Phe	Leu	Leu	Glu	Thr	Pro	Ser	Glu	Tyr	Leu	Glu	Ile	Val	Arg	395	400	405
Glu	Asn	His	Gly	Leu	Leu	Pro	Pro	Leu	Tyr	Lys	Ser	Val	Lys	Thr	410	415	420

Tyr Thr Val

<210> 242  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 242  
 catttcctta ccctggaccc agctcc 26

<210> 243  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 243  
gaaaggccca cagcacatct ggcag 25

<210> 244  
<211> 46  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 244  
ccacgacccg agcaacttcc tcaagaccga cttgtttctc tacagc 46

<210> 245  
<211> 485  
<212> DNA  
<213> Homo sapiens

<400> 245  
gctcaagacc cagcagtggg acagccagac agacggcacg atggcactga 50  
gctcccagat ctgggccgct tgcctcctgc tctcctcct cctcgccagc 100  
ctgaccagtg gctctgtttt ccacacaacag acgggacaac ttgcagagct 150  
gcaacccccag gacagagctg gagccagggc cagctggatg cccatgttcc 200  
agaggcgaag gaggcgagac acccacttcc ccattctgcat tttctgctgc 250  
ggctgctgtc atcgatcaaa gtgtgggatg tgctgcaaga cgtagaacct 300  
acctgccctg ccccgctccc ctcccttctt tatttattcc tgctgcccc 350  
gaacataggt cttggaataa aatggctggg tcttttgttt tccaaaaaaaa 400  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 450  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa 485

<210> 246  
<211> 84  
<212> PRT  
<213> Homo sapiens

<400> 246  
Met Ala Leu Ser Ser Gln Ile Trp Ala Ala Cys Leu Leu Leu Leu  
1 5 10 15  
Leu Leu Leu Ala Ser Leu Thr Ser Gly Ser Val Phe Pro Gln Gln  
20 25 30  
Thr Gly Gln Leu Ala Glu Leu Gln Pro Gln Asp Arg Ala Gly Ala  
35 40 45  
Arg Ala Ser Trp Met Pro Met Phe Gln Arg Arg Arg Arg Arg Asp  
50 55 60  
Thr His Phe Pro Ile Cys Ile Phe Cys Cys Gly Cys Cys His Arg  
65 70 75

Ser Lys Cys Gly Met Cys Cys Lys Thr  
80

<210> 247  
<211> 2359  
<212> DNA  
<213> Homo sapiens

<400> 247  
ctgtcaggaa ggaccatctg aaggctgcaa tttgttctta gggaggcagg 50  
tgctggcctg gcctggatct tccaccatgt tcctgttgct gccttttgat 100  
agcctgattg tcaaccttct gggcatctcc ctgactgtcc tcttcaccct 150  
ccttctcggt ttcatcatag tgccagccat ttttgagtc tcctttggta 200  
tcgcgaaact ctacatgaaa agtctgttaa aaatctttgc gtgggctacc 250  
ttgagaatgg agcgaggagc caaggagaag aaccaccagc ttacaagcc 300  
ctacaccaac ggaatcattg caaaggatcc cacttcacta gaagaagaga 350  
tcaaagagat tcgtcgaagt ggtagtagta aggctctgga caaactcca 400  
gagttcgagc tctctgacat tttctacttt tgccggaag gaatggagac 450  
cattatggat gatgaggtga caaagagatt ctgagcagaa gaactggagt 500  
cctggaacct gctgagcaga accaattata acttccagta catcagcctt 550  
cggctcacgg tcctgtgggg gttaggagtg ctgattcggg actgctttct 600  
gctgccgctc aggatagcac tggctttcac agggattagc cttctggtgg 650  
tgggcacaac tgtggtggga tacttgccaa atgggaggtt taaggaattc 700  
atgagtaaac atgttcactt aatgtgttac cggatctgcg tgcgagcgt 750  
gacagccatc atcacctacc atgacaggga aaacagacca agaatggtg 800  
gcatctgtgt ggccaatcat acctcaccga tcgatgtgat catcttgccc 850  
agcgatggct attatgcat ggtgggtcaa gtgcacgggg gactcatggg 900  
tgtgattcag agagccatgg tgaaggcctg cccacacgtc tggtttgagc 950  
gctcggaagt gaaggatcgc cacctggtgg ctaagagact gactgaacat 1000  
gtgcaagata aaagcaagct gcctatcctc atcttcccag aaggaacctg 1050  
catcaataat acatcggtga tgatgttcaa aaaggaagt tttgaaattg 1100  
gagccacagt ttacctgtgt gctatcaagt atgacctca atttggcgat 1150  
gccttctgga acagcagcaa atacgggatg gtgacgtacc tgctgcgaat 1200  
gatgaccagc tgggccattg tctgcagcgt gtggtacctg cctcccatga 1250  
ctagagagggc agatgaagat gctgtccagt ttgcgaatag ggtgaaatct 1300  
gccattgcca ggcagggagg acttgtggac ctgctgtggg atgggggcct 1350

gaagagggag aaggtgaagg acacgttcaa ggaggagcag cagaagctgt 1400  
 acagcaagat gatcgtgggg aaccacaagg acaggagccg ctcttgagcc 1450  
 tgcctccagc tggctggggc caccgtgcgg ggtgccaacg ggctcagagc 1500  
 tggagttgcc gccgccgccc ccactgctgt gtcctttcca gactccaggg 1550  
 ctccccgggc tgctctggat cccaggactc cggctttcgc cgagccgcag 1600  
 cgggatccct gtgcaccggc cgcagcctac ccttgggtgt ctaaaccgat 1650  
 gctgctgggt gttgcgaccc aggacgagat gccttgtttc tttacaata 1700  
 agtcgttga ggaatgccat taaagtgaac tccccacctt tgcacgctgt 1750  
 gcgggctgag tggttgggga gatgtggcca tggctctgtg ctagagatgg 1800  
 cgggtacaaga gtctgttatg caagcccgty tgccagggat gtgctggggg 1850  
 cggccacccg ctctccagga aaggcacagc tgaggcactg tggctggcctt 1900  
 cggcctcaac atcgccccca gccttgagc tctgcagaca tgataggaag 1950  
 gaaactgtca tctgcagggg ctttcagcaa aatgaagggt tagattttta 2000  
 tgctgctgct gatgggggta ctaaaggag ggaagaggc cagggtgggc 2050  
 gctgactggg ccatggggag aacgtgtgtt cgtactccag gctaaccctg 2100  
 aactccccat gtgatgcgcg ctttgttgaa tgtgtgtctc gggtttcccca 2150  
 tctgtaatat gagtcggggg gaatggtgtt gattcctacc tcacagggt 2200  
 gttgtgggga ttaaagtgtc gcgggtgagt gaaggacaca tcacgttcag 2250  
 tgtttcaagt acaggccac aaaacggggc acggcaggcc tgagctcaga 2300  
 gctgctgcac tgggctttgg atttgttctt gtgagtaaataaaaactggct 2350  
 ggtgaatga 2359

<210> 248  
 <211> 456  
 <212> PRT  
 <213> Homo sapiens

<400> 248  
 Met Phe Leu Leu Leu Pro Phe Asp Ser Leu Ile Val Asn Leu Leu  
 1 5 10 15  
 Gly Ile Ser Leu Thr Val Leu Phe Thr Leu Leu Leu Val Phe Ile  
 20 25 30  
 Ile Val Pro Ala Ile Phe Gly Val Ser Phe Gly Ile Arg Lys Leu  
 35 40 45  
 Tyr Met Lys Ser Leu Leu Lys Ile Phe Ala Trp Ala Thr Leu Arg  
 50 55 60  
 Met Glu Arg Gly Ala Lys Glu Lys Asn His Gln Leu Tyr Lys Pro  
 65 70 75



Tyr	Thr	Asn	Gly	Ile	Ile	Ala	Lys	Asp	Pro	Thr	Ser	Leu	Glu	Glu	80	85	90
Glu	Ile	Lys	Glu	Ile	Arg	Arg	Ser	Gly	Ser	Ser	Lys	Ala	Leu	Asp	95	100	105
Asn	Thr	Pro	Glu	Phe	Glu	Leu	Ser	Asp	Ile	Phe	Tyr	Phe	Cys	Arg	110	115	120
Lys	Gly	Met	Glu	Thr	Ile	Met	Asp	Asp	Glu	Val	Thr	Lys	Arg	Phe	125	130	135
Ser	Ala	Glu	Glu	Leu	Glu	Ser	Trp	Asn	Leu	Leu	Ser	Arg	Thr	Asn	140	145	150
Tyr	Asn	Phe	Gln	Tyr	Ile	Ser	Leu	Arg	Leu	Thr	Val	Leu	Trp	Gly	155	160	165
Leu	Gly	Val	Leu	Ile	Arg	Tyr	Cys	Phe	Leu	Leu	Pro	Leu	Arg	Ile	170	175	180
Ala	Leu	Ala	Phe	Thr	Gly	Ile	Ser	Leu	Leu	Val	Val	Gly	Thr	Thr	185	190	195
Val	Val	Gly	Tyr	Leu	Pro	Asn	Gly	Arg	Phe	Lys	Glu	Phe	Met	Ser	200	205	210
Lys	His	Val	His	Leu	Met	Cys	Tyr	Arg	Ile	Cys	Val	Arg	Ala	Leu	215	220	225
Thr	Ala	Ile	Ile	Thr	Tyr	His	Asp	Arg	Glu	Asn	Arg	Pro	Arg	Asn	230	235	240
Gly	Gly	Ile	Cys	Val	Ala	Asn	His	Thr	Ser	Pro	Ile	Asp	Val	Ile	245	250	255
Ile	Leu	Ala	Ser	Asp	Gly	Tyr	Tyr	Ala	Met	Val	Gly	Gln	Val	His	260	265	270
Gly	Gly	Leu	Met	Gly	Val	Ile	Gln	Arg	Ala	Met	Val	Lys	Ala	Cys	275	280	285
Pro	His	Val	Trp	Phe	Glu	Arg	Ser	Glu	Val	Lys	Asp	Arg	His	Leu	290	295	300
Val	Ala	Lys	Arg	Leu	Thr	Glu	His	Val	Gln	Asp	Lys	Ser	Lys	Leu	305	310	315
Pro	Ile	Leu	Ile	Phe	Pro	Glu	Gly	Thr	Cys	Ile	Asn	Asn	Thr	Ser	320	325	330
Val	Met	Met	Phe	Lys	Lys	Gly	Ser	Phe	Glu	Ile	Gly	Ala	Thr	Val	335	340	345
Tyr	Pro	Val	Ala	Ile	Lys	Tyr	Asp	Pro	Gln	Phe	Gly	Asp	Ala	Phe	350	355	360
Trp	Asn	Ser	Ser	Lys	Tyr	Gly	Met	Val	Thr	Tyr	Leu	Leu	Arg	Met	365	370	375
Met	Thr	Ser	Trp	Ala	Ile	Val	Cys	Ser	Val	Trp	Tyr	Leu	Pro	Pro	380	385	390

Met	Thr	Arg	Glu	Ala	Asp	Glu	Asp	Ala	Val	Gln	Phe	Ala	Asn	Arg
				395					400					405
Val	Lys	Ser	Ala	Ile	Ala	Arg	Gln	Gly	Gly	Leu	Val	Asp	Leu	Leu
				410					415					420
Trp	Asp	Gly	Gly	Leu	Lys	Arg	Glu	Lys	Val	Lys	Asp	Thr	Phe	Lys
				425					430					435
Glu	Glu	Gln	Gln	Lys	Leu	Tyr	Ser	Lys	Met	Ile	Val	Gly	Asn	His
				440					445					450
Lys	Asp	Arg	Ser	Arg	Ser									
				455										

<210> 249  
 <211> 1103  
 <212> DNA  
 <213> Homo sapiens

<400> 249  
 gcccctcgaa accaggactc cagcacctct ggtcccgccc tcacccggaac 50  
 ccctggccct cagctctcct ccagggatgg cgctggcggc tttgatgac 100  
 gccctcggca gcctcggcct ccacacctgg caggcccagg ctgttcccac 150  
 catcctgccc ctgggcctgg ctccagacac ctttgacgat acctatgtgg 200  
 gttgtgcaga ggagatggag gagaaggcag cccccctgct aaaggaggaa 250  
 atggcccacc atgcctgct gcggaatcc tgggaggcag cccaggagac 300  
 ctgggaggac aagcgtcgag ggcttacctt gccccctggc ttcaaagccc 350  
 agaatggaat agccattatg gtctacacca actcatcgaa caccttgtac 400  
 tgggagttga atcaggccgt gcggacgggc ggaggctccc gggagctcta 450  
 catgaggcac tttcccttca aggccctgca tttctacctg atccgggccc 500  
 tgcagctgct gcgaggcagt gggggctgca gcaggggacc tggggaggtg 550  
 gtgttccgag gtgtgggcag ccttcgcttt gaacccaaga ggctggggga 600  
 ctctgtccgc ttgggccagt ttgcctccag ctccctggat aaggcagtgg 650  
 cccacagatt tggggagaag aggcggggct gtgtgtctgc gccaggggtg 700  
 cagctagggt cacaatctga gggggcctcc tctctgcccc cctggaagac 750  
 tctgctcttg gccctggag agttccagct ctccaggggtt gggccctgaa 800  
 agtccaacat ctgccactta ggagccctgg gaacgggtga cttcatatg 850  
 acgaagaggc acctccagca gccttgagaa gcaagaacat ggttccggac 900  
 ccagccctag cagccttctc cccaaccagg atgttggcct ggggaggcca 950  
 cagcagggt gagggaaact tgctatgtga tggggacttc ctgggacaag 1000  
 caaggaaagt actgaggcag ccacttgatt gaacggtgtt gcaatgtgga 1050

gacatggagt tttattgagg tagctacgtg attaaatggt attgcagtgt 1100

gga 1103

<210> 250

<211> 240

<212> PRT

<213> Homo sapiens

<400> 250

Met Ala Leu Ala Ala Leu Met Ile Ala Leu Gly Ser Leu Gly Leu  
1 5 10 15

His Thr Trp Gln Ala Gln Ala Val Pro Thr Ile Leu Pro Leu Gly  
20 25 30

Leu Ala Pro Asp Thr Phe Asp Asp Thr Tyr Val Gly Cys Ala Glu  
35 40 45

Glu Met Glu Glu Lys Ala Ala Pro Leu Leu Lys Glu Glu Met Ala  
50 55 60

His His Ala Leu Leu Arg Glu Ser Trp Glu Ala Ala Gln Glu Thr  
65 70 75

Trp Glu Asp Lys Arg Arg Gly Leu Thr Leu Pro Pro Gly Phe Lys  
80 85 90

Ala Gln Asn Gly Ile Ala Ile Met Val Tyr Thr Asn Ser Ser Asn  
95 100 105

Thr Leu Tyr Trp Glu Leu Asn Gln Ala Val Arg Thr Gly Gly Gly  
110 115 120

Ser Arg Glu Leu Tyr Met Arg His Phe Pro Phe Lys Ala Leu His  
125 130 135

Phe Tyr Leu Ile Arg Ala Leu Gln Leu Leu Arg Gly Ser Gly Gly  
140 145 150

Cys Ser Arg Gly Pro Gly Glu Val Val Phe Arg Gly Val Gly Ser  
155 160 165

Leu Arg Phe Glu Pro Lys Arg Leu Gly Asp Ser Val Arg Leu Gly  
170 175 180

Gln Phe Ala Ser Ser Ser Leu Asp Lys Ala Val Ala His Arg Phe  
185 190 195

Gly Glu Lys Arg Arg Gly Cys Val Ser Ala Pro Gly Val Gln Leu  
200 205 210

Gly Ser Gln Ser Glu Gly Ala Ser Ser Leu Pro Pro Trp Lys Thr  
215 220 225

Leu Leu Leu Ala Pro Gly Glu Phe Gln Leu Ser Gly Val Gly Pro  
230 235 240

<210> 251

<211> 50

<212> DNA

<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 251  
ccaccacctg gaggtcctgc agttgggcag gaactccatc cggcagattg 50

<210> 252  
<211> 1076  
<212> DNA  
<213> Homo sapiens

<400> 252  
gtggcttcat ttcagtggct gacttccaga gagcaatatg gctggttccc 50  
caacatgcct caccctcatc tatacctttt ggcagctcac agggtcagca 100  
gcctctggac ccgtgaaaga gctggtcggt tccgttggtg gggcctgac 150  
tttccccctg aagtccaaag taaagcaagt tgactctatt gtctggacct 200  
tcaacacaac ccctcttgct accatacagc cagaaggggg cactatcata 250  
gtgacccaaa atcgtaatag ggagagagta gacttcccag atggaggcta 300  
ctccctgaag ctgagcaaac tgaagaagaa tgactcaggg atctactatg 350  
tggggatata cagctcatca ctccagcagc cctccacca ggagtacgtg 400  
ctgcatgtct acgagcacct gtcaaagcct aaagtcacca tgggtctgca 450  
gagcaataag aatggcacct gtgtgaccaa tctgacatgc tgcattggaac 500  
atggggaaga ggatgtgatt tatacctgga agggcctggg gcaagcagcc 550  
aatgagtcct ataattgggtc catcctcccc atctcctgga gatggggaga 600  
aagtgatatg accttcatct gcgttgccag gaaccctgtc agcagaaact 650  
tctcaagccc catccttgcc aggaagctct gtgaagggtc tgctgatgac 700  
ccagattcct ccattggtcct cctgtgtctc ctgttggtgc cctcctgct 750  
cagtctcttt gtactggggc tatttctttg gtttctgaag agagagagac 800  
aagaagagta cattgaagag aagaagagag tggacatttg tcgggaaact 850  
cctaacatat gccccattc tggagagaac acagagtacg acacaatccc 900  
tcacactaat agaacaatcc taaaggaaga tccagcaaat acggtttact 950  
ccactgtgga aataccgaaa aagatggaaa atcccactc actgctcacg 1000  
atgccagaca caccaaggct atttgcctat gagaatgtta tctagacagc 1050  
agtgcactcc cctaagtctc tgctca 1076

<210> 253  
<211> 335  
<212> PRT  
<213> Homo sapiens

<400> 253  
Met Ala Gly Ser Pro Thr Cys Leu Thr Leu Ile Tyr Ile Leu Trp

1	5	10	15
Gln Leu Thr Gly Ser	Ala Ala Ser Gly	Pro Val Lys Glu Leu Val	
	20	25	30
Gly Ser Val Gly Gly	Ala Val Thr Phe	Pro Leu Lys Ser Lys Val	
	35	40	45
Lys Gln Val Asp Ser	Ile Val Trp Thr	Phe Asn Thr Thr Pro Leu	
	50	55	60
Val Thr Ile Gln Pro	Glu Gly Gly Thr	Ile Ile Val Thr Gln Asn	
	65	70	75
Arg Asn Arg Glu Arg	Val Asp Phe Pro	Asp Gly Gly Tyr Ser Leu	
	80	85	90
Lys Leu Ser Lys Leu	Lys Lys Asn Asp	Ser Gly Ile Tyr Tyr Val	
	95	100	105
Gly Ile Tyr Ser Ser	Ser Leu Gln Gln	Pro Ser Thr Gln Glu Tyr	
	110	115	120
Val Leu His Val Tyr	Glu His Leu Ser	Lys Pro Lys Val Thr Met	
	125	130	135
Gly Leu Gln Ser Asn	Lys Asn Gly Thr	Cys Val Thr Asn Leu Thr	
	140	145	150
Cys Cys Met Glu His	Gly Glu Glu Asp	Val Ile Tyr Thr Trp Lys	
	155	160	165
Ala Leu Gly Gln Ala	Ala Asn Glu Ser	His Asn Gly Ser Ile Leu	
	170	175	180
Pro Ile Ser Trp Arg	Trp Gly Glu Ser	Asp Met Thr Phe Ile Cys	
	185	190	195
Val Ala Arg Asn Pro	Val Ser Arg Asn	Phe Ser Ser Pro Ile Leu	
	200	205	210
Ala Arg Lys Leu Cys	Glu Gly Ala Ala	Asp Asp Pro Asp Ser Ser	
	215	220	225
Met Val Leu Leu Cys	Leu Leu Leu Val	Pro Leu Leu Leu Ser Leu	
	230	235	240
Phe Val Leu Gly Leu	Phe Leu Trp Phe	Leu Lys Arg Glu Arg Gln	
	245	250	255
Glu Glu Tyr Ile Glu	Glu Lys Lys Arg	Val Asp Ile Cys Arg Glu	
	260	265	270
Thr Pro Asn Ile Cys	Pro His Ser Gly	Glu Asn Thr Glu Tyr Asp	
	275	280	285
Thr Ile Pro His Thr	Asn Arg Thr Ile	Leu Lys Glu Asp Pro Ala	
	290	295	300
Asn Thr Val Tyr Ser	Thr Val Glu Ile	Pro Lys Lys Met Glu Asn	
	305	310	315
Pro His Ser Leu Leu	Thr Met Pro Asp	Thr Pro Arg Leu Phe Ala	

320

325

330

Tyr Glu Asn Val Ile  
335

<210> 254  
<211> 1053  
<212> DNA  
<213> Homo sapiens

<400> 254  
ctgggtcccc aacatgcctc accctcatct atatcctttg gcagctcaca 50  
gggtcagcag cctctggacc cgtgaaagag ctggtcgggt ccgttggtgg 100  
ggcgtgact ttccccctga agtccaaagt aaagcaagtt gactctattg 150  
tctggacctt caacacaacc cctcttgtca ccatacagcc agaagggggc 200  
actatcatag tgacccaaaa tcgtaatagg gagagagtag acttcccaga 250  
tggaggctac tccctgaagc tcagcaaaact gaagaagaat gactcaggga 300  
tctactatgt ggggatatac agctcatcac tccagcagcc ctccaccag 350  
gagtacgtgc tgcatgtcta cgagcacctg tcaaagccta aagtcaccat 400  
gggtctgcag agcaataaga atggcacctg tgtgaccaat ctgacatgct 450  
gcatggaaca tggggaagag gatgtgattt atacctggaa ggcctgggg 500  
caagcagcca atgagtccca taatgggtcc atcctcccca tctcctggag 550  
atggggagaa agtgatatga ccttcatctg cgttgccagg aaccctgtca 600  
gcagaaactt ctcaagcccc atccttgcca ggaagctctg tgaaggtgct 650  
gctgatgacc cagattcctc catggtcctc ctgtgtctcc tgttggtgcc 700  
cctcctgctc agtctctttg tactgggggt atttcttttg tttctgaaga 750  
gagagagaca agaagagtac attgaagaga agaagagagt ggacatttgt 800  
cgggaaactc ctaacatatg cccccattct ggagagaaca cagagtacga 850  
cacaatccct cacactaata gaacaatcct aaaggaagat ccagcaaata 900  
cgttttactc cactgtggaa ataccgaaaa agatggaaaa tccccactca 950  
ctgctcacga tgccagacac accaaggcta tttgcctatg agaatgttat 1000  
ctagacagca gtgcactccc ctaagtctct gctcaaaaaa aaaaaaaaaa 1050  
aaa 1053

<210> 255  
<211> 860  
<212> DNA  
<213> Homo sapiens

<400> 255  
gaaagacgtg gtcttgacag acagacaatc ctattcccta ccaaatgaa 50

gatgctgctg ctgctgtggt tgggactgac cctagtctgt gtccatgcag 100  
aagaagctag ttctacggga aggaacttta atgtagaaaa gattaatggg 150  
gaatggcata ctattatcct ggcctctgac aaaagagaaa agatagaaga 200  
acatggcaac tttagacttt ttctggagca aatccatgtc ttggagaatt 250  
ccttagttct taaagtccat actgtaagag atgaagagtg ctccgaatta 300  
tctatgggtg ctgacaaaac agaaaaggct ggtgaatatt ctgtgacgta 350  
tgatggattc aatacattta ctatacctaa gacagactat gataactttc 400  
ttatggctca cctcattaac gaaaaggatg gggaaacctt ccagctgatg 450  
gggctctatg gccgagaacc agatttgagt tcagacatca aggaaagggt 500  
tgcacaacta tgtgaggagc atggaatcct tagagaaaat atcattgacc 550  
tatccaatgc caatcgctgc ctccaggccc gagaatgaag aatggcctga 600  
gcctccagtg ttgagtggac acttctcacc aggactccac catcatccct 650  
tcctatccat acagcatccc cagtataaat tctgtgatct gcattccatc 700  
ctgtctcact gagaagtcca attccagtct atcaacatgt tacctaggat 750  
acctcatcaa gaatcaaaga cttcttttaa tttctctttg atacaccctt 800  
gacaattttt catgaaatta ttctcttcc tgttcaataa atgattaccc 850  
ttgcacttaa 860

<210> 256  
<211> 180  
<212> PRT  
<213> Homo sapiens

<400> 256  
Met Lys Met Leu Leu Leu Leu Cys Leu Gly Leu Thr Leu Val Cys  
1 5 10 15  
Val His Ala Glu Glu Ala Ser Ser Thr Gly Arg Asn Phe Asn Val  
20 25 30  
Glu Lys Ile Asn Gly Glu Trp His Thr Ile Ile Leu Ala Ser Asp  
35 40 45  
Lys Arg Glu Lys Ile Glu Glu His Gly Asn Phe Arg Leu Phe Leu  
50 55 60  
Glu Gln Ile His Val Leu Glu Asn Ser Leu Val Leu Lys Val His  
65 70 75  
Thr Val Arg Asp Glu Glu Cys Ser Glu Leu Ser Met Val Ala Asp  
80 85 90  
Lys Thr Glu Lys Ala Gly Glu Tyr Ser Val Thr Tyr Asp Gly Phe  
95 100 105  
Asn Thr Phe Thr Ile Pro Lys Thr Asp Tyr Asp Asn Phe Leu Met  
110 115 120

Ala	His	Leu	Ile	Asn	Glu	Lys	Asp	Gly	Glu	Thr	Phe	Gln	Leu	Met
				125					130					135
Gly	Leu	Tyr	Gly	Arg	Glu	Pro	Asp	Leu	Ser	Ser	Asp	Ile	Lys	Glu
				140					145					150
Arg	Phe	Ala	Gln	Leu	Cys	Glu	Glu	His	Gly	Ile	Leu	Arg	Glu	Asn
				155					160					165
Ile	Ile	Asp	Leu	Ser	Asn	Ala	Asn	Arg	Cys	Leu	Gln	Ala	Arg	Glu
				170					175					180

<210> 257  
 <211> 766  
 <212> DNA  
 <213> Homo sapiens

<400> 257  
 ggctcgagcg tttctgagcc aggggtgacc atgacctgct gcgaaggatg 50  
 gacatcctgc aatggattca gcctgctggt tctactgctg ttaggagtag 100  
 ttctcaatgc gatacctcta attgtcagct tagttgagga agaccaatatt 150  
 tctcaaaacc ccatctcttg ctttgagtgg tggttcccag gaattatagg 200  
 agcaggctctg atggccattc cagcaacaac aatgtccttg acagcaagaa 250  
 aaagagcgtg ctgcaacaac agaactggaa tgtttctttc atcatttttc 300  
 agtgtgatca cagtcattgg tgctctgtat tgcattgctga tatccatcca 350  
 ggctctctta aaaggctcctc tcatgtgtaa ttctccaagc aacagtaatg 400  
 ccaattgtga attttcattg aaaaacatca gtgacattca tccagaatcc 450  
 ttcaacttgc agtggttttt caatgactct tgtgcacctc ctactggttt 500  
 caataaacc accagtaacg acaccatggc gagtggctgg agagcatcta 550  
 gtttccactt cgattctgaa gaaaacaaac ataggcttat ccacttctca 600  
 gtatttttag gtctattgct tggttgaatt ctggaggtcc tgtttgggct 650  
 cagtcagata gtcacggtt tcttgggctg tctgtgtgga gtctctaagc 700  
 gaagaagtca aattgtgtag tttaatggga ataaaatgta agtatcagta 750  
 gtttgaaaaa aaaaaa 766

<210> 258  
 <211> 229  
 <212> PRT  
 <213> Homo sapiens

<400> 258  
 Met Thr Cys Cys Glu Gly Trp Thr Ser Cys Asn Gly Phe Ser Leu  
 1 5 10 15  
 Leu Val Leu Leu Leu Leu Gly Val Val Leu Asn Ala Ile Pro Leu  
 20 25 30  
 Ile Val Ser Leu Val Glu Glu Asp Gln Phe Ser Gln Asn Pro Ile



	35	40	45
Ser Cys Phe Glu Trp Trp Phe Pro Gly Ile Ile Gly Ala Gly Leu	50	55	60
Met Ala Ile Pro Ala Thr Thr Met Ser Leu Thr Ala Arg Lys Arg	65	70	75
Ala Cys Cys Asn Asn Arg Thr Gly Met Phe Leu Ser Ser Phe Phe	80	85	90
Ser Val Ile Thr Val Ile Gly Ala Leu Tyr Cys Met Leu Ile Ser	95	100	105
Ile Gln Ala Leu Leu Lys Gly Pro Leu Met Cys Asn Ser Pro Ser	110	115	120
Asn Ser Asn Ala Asn Cys Glu Phe Ser Leu Lys Asn Ile Ser Asp	125	130	135
Ile His Pro Glu Ser Phe Asn Leu Gln Trp Phe Phe Asn Asp Ser	140	145	150
Cys Ala Pro Pro Thr Gly Phe Asn Lys Pro Thr Ser Asn Asp Thr	155	160	165
Met Ala Ser Gly Trp Arg Ala Ser Ser Phe His Phe Asp Ser Glu	170	175	180
Glu Asn Lys His Arg Leu Ile His Phe Ser Val Phe Leu Gly Leu	185	190	195
Leu Leu Val Gly Ile Leu Glu Val Leu Phe Gly Leu Ser Gln Ile	200	205	210
Val Ile Gly Phe Leu Gly Cys Leu Cys Gly Val Ser Lys Arg Arg	215	220	225
Ser Gln Ile Val			

<210> 259  
 <211> 434  
 <212> DNA  
 <213> Homo sapiens

<400> 259  
 gtcgaatcca aatcactcat tgtgaaagct gagctcacag ccgaataagc 50  
 caccatgagg ctgtcagtgt gtctcctgat ggtctcgctg gccctttgct 100  
 gctaccaggc ccattgctctt gtctgccag ctgttgcttc tgagatcaca 150  
 gtctttcttat tcttaagtga cgctgcggta aacctccaag ttgccaaact 200  
 taatccacct ccagaagctc ttgcagccaa gttggaagtg aagcactgca 250  
 ccgatcagat atctttttaag aaacgactct cattgaaaaa gtcttggtgg 300  
 aaatagtga aaaatgtggt gtgtgacatg taaaaatgct caacctggtt 350  
 tccaaagtct ttcaacgaca ccctgatctt cactaaaaat tgtaaagggt 400

tcaacacggtt gctttaataa atcacttgcc ctgc 434

<210> 260

<211> 83

<212> PRT

<213> Homo sapiens

<400> 260

Met Arg Leu Ser Val Cys Leu Leu Met Val Ser Leu Ala Leu Cys  
1 5 10 15

Cys Tyr Gln Ala His Ala Leu Val Cys Pro Ala Val Ala Ser Glu  
20 25 30

Ile Thr Val Phe Leu Phe Leu Ser Asp Ala Ala Val Asn Leu Gln  
35 40 45

Val Ala Lys Leu Asn Pro Pro Pro Glu Ala Leu Ala Ala Lys Leu  
50 55 60

Glu Val Lys His Cys Thr Asp Gln Ile Ser Phe Lys Lys Arg Leu  
65 70 75

Ser Leu Lys Lys Ser Trp Trp Lys  
80

<210> 261

<211> 636

<212> DNA

<213> Homo sapiens

<400> 261

atccgttctc tgcgctgcc a gctcaggtga gccctcgcca aggtgacctc 50

gcaggacact ggtgaaggag cagtgaggaa cctgcagagt cacacagttg 100

ctgaccaatt gagctgtgag cctggagcag atccgtgggc tgcagacccc 150

cgccccagtg cctctcccc tgcagccctg cccctcgaa tgtgacatgg 200

agagagtgc cctggccctt ctctactgg caggcctgac tgccttgaa 250

gccaatgacc catttgcaa taaagacgat cccttctact atgactggaa 300

aaacctgcag ctgagcggac tgatctgcgg agggctcctg gccattgctg 350

ggatcgcggc agttctgagt ggcaaagca aatacaagag cagccagaag 400

cagcacagtc ctgtacctga gaaggccatc ccaatcatca ctccaggctc 450

tgccactact tgctgagcac aggactggcc tccagggatg gcctgaagcc 500

taacactggc cccagcacc tctccctctg ggaggcctta tctcaagga 550

aggacttctc tccaagggca ggctgttagg cccctttctg atcaggaggc 600

ttctttatga attaaactcg cccaccacc ccctca 636

<210> 262

<211> 89

<212> PRT

<213> Homo sapiens

<400> 262  
Met Glu Arg Val Thr Leu Ala Leu Leu Leu Leu Ala Gly Leu Thr  
1 5 10 15  
Ala Leu Glu Ala Asn Asp Pro Phe Ala Asn Lys Asp Asp Pro Phe  
20 25 30  
Tyr Tyr Asp Trp Lys Asn Leu Gln Leu Ser Gly Leu Ile Cys Gly  
35 40 45  
Gly Leu Leu Ala Ile Ala Gly Ile Ala Ala Val Leu Ser Gly Lys  
50 55 60  
Cys Lys Tyr Lys Ser Ser Gln Lys Gln His Ser Pro Val Pro Glu  
65 70 75  
Lys Ala Ile Pro Leu Ile Thr Pro Gly Ser Ala Thr Thr Cys  
80 85

<210> 263  
<211> 1676  
<212> DNA  
<213> Homo sapiens

<400> 263  
ggagaagagg ttgtgtggga caagctgctc ccgacagaag gatgtcgctg 50  
ctgagcctgc cctggctggg cctcagaccg gtggcaatgt ccccatggct 100  
actcctgctg ctggttgtgg gctcctggct actcgccgc atcctggctt 150  
ggacctatgc cttctataac aactgccgcc ggctccagtg tttccacag 200  
ccccaaaac ggaactggtt ttggggtcac ctgggcctga tcaactctac 250  
agaggagggc ttgaaggact cgaccagat gtcggccacc tattccagg 300  
gctttacggt atggctgggt cccatcatcc ccttcacgt tttatgccac 350  
cctgacacca tccggtctat caccaatgcc tcagctgcca ttgcaaccaa 400  
ggataatctc ttcacaggt tctgaagcc ctggctggga gaagggatac 450  
tgctgagtgg cggtgacaag tggagccgcc accgtcggat gctgacgccc 500  
gccttcatt tcaacatcct gaagtccat ataacgatct tcaacaagag 550  
tgcaaacatc atgcttgaca agtggcagca cctggcctca gagggcagca 600  
gtcgtctgga catgtttgag cacatcagcc tcatgacott ggacagtcta 650  
cagaaatgca tcttcagctt tgacagccat tgtcaggaga ggcccagtga 700  
atatattgcc accatcttgg agctcagtgc ccttgtagag aaaagaagcc 750  
agcatatcct ccagcacatg gactttctgt attacctctc ccatgacggg 800  
cggcgttcc acagggcctg ccgcctgggt catgacttca cagacgctgt 850  
catccgggag cggcgtcgca cctcccccac tcagggtatt gatgattttt 900  
tcaaagacaa agccaagtcc aagactttgg atttcattga tgtgcttctg 950

ctgagcaagg atgaagatgg gaaggcattg tcagatgagg atataagagc 1000  
 agaggctgac accttcatgt ttggaggcca tgacaccacg gccagtggcc 1050  
 tctcctgggt cctgtacaac cttgcgaggc acccagaata ccaggagcgc 1100  
 tgccgacagg aggtgcaaga gcttctgaag gaccgcgatc ctaaagagat 1150  
 tgaatgggac gacctggccc agctgccctt cctgaccatg tgcgtgaagg 1200  
 agagcctgag gttacatccc ccagctccct tcctctcccg atgctgcacc 1250  
 caggacattg ttctcccaga tggccgagtc atcccaaaag gcattacctg 1300  
 cctcatcgat attatagggg tccatcacia cccaactgtg tggccggatc 1350  
 ctgaggtcta cgaccocctc cgctttgacc cagagaacag caaggggagg 1400  
 tcacctctgg cttttattcc tttctccgca gggcccagga actgcatcgg 1450  
 gcaggcgttc gccatggcgg agatgaaagt ggtcctggcg ttgatgctgc 1500  
 tgcacttccg gttcctgcca gaccacactg agccccgcag gaagctggaa 1550  
 ttgatcatgc gcgccgaggg cgggctttgg ctgcgggtgg agcccctgaa 1600  
 tgtaggcttg cagtgaactt ctgaccatc cacctgtttt ttgacagatt 1650  
 gtcataaata aaacgggtgct gtcaaaa 1676

<210> 264  
 <211> 524  
 <212> PRT  
 <213> Homo sapiens

<400> 264  
 Met Ser Leu Leu Ser Leu Pro Trp Leu Gly Leu Arg Pro Val Ala  
 1 5 10 15  
 Met Ser Pro Trp Leu Leu Leu Leu Val Val Gly Ser Trp Leu  
 20 25 30  
 Leu Ala Arg Ile Leu Ala Trp Thr Tyr Ala Phe Tyr Asn Asn Cys  
 35 40 45  
 Arg Arg Leu Gln Cys Phe Pro Gln Pro Pro Lys Arg Asn Trp Phe  
 50 55 60  
 Trp Gly His Leu Gly Leu Ile Thr Pro Thr Glu Glu Gly Leu Lys  
 65 70 75  
 Asp Ser Thr Gln Met Ser Ala Thr Tyr Ser Gln Gly Phe Thr Val  
 80 85 90  
 Trp Leu Gly Pro Ile Ile Pro Phe Ile Val Leu Cys His Pro Asp  
 95 100 105  
 Thr Ile Arg Ser Ile Thr Asn Ala Ser Ala Ala Ile Ala Pro Lys  
 110 115 120  
 Asp Asn Leu Phe Ile Arg Phe Leu Lys Pro Trp Leu Gly Glu Gly  
 125 130 135

Ile	Leu	Leu	Ser	Gly	Gly	Asp	Lys	Trp	Ser	Arg	His	Arg	Arg	Met	140	145	150
Leu	Thr	Pro	Ala	Phe	His	Phe	Asn	Ile	Leu	Lys	Ser	Tyr	Ile	Thr	155	160	165
Ile	Phe	Asn	Lys	Ser	Ala	Asn	Ile	Met	Leu	Asp	Lys	Trp	Gln	His	170	175	180
Leu	Ala	Ser	Glu	Gly	Ser	Ser	Arg	Leu	Asp	Met	Phe	Glu	His	Ile	185	190	195
Ser	Leu	Met	Thr	Leu	Asp	Ser	Leu	Gln	Lys	Cys	Ile	Phe	Ser	Phe	200	205	210
Asp	Ser	His	Cys	Gln	Glu	Arg	Pro	Ser	Glu	Tyr	Ile	Ala	Thr	Ile	215	220	225
Leu	Glu	Leu	Ser	Ala	Leu	Val	Glu	Lys	Arg	Ser	Gln	His	Ile	Leu	230	235	240
Gln	His	Met	Asp	Phe	Leu	Tyr	Tyr	Leu	Ser	His	Asp	Gly	Arg	Arg	245	250	255
Phe	His	Arg	Ala	Cys	Arg	Leu	Val	His	Asp	Phe	Thr	Asp	Ala	Val	260	265	270
Ile	Arg	Glu	Arg	Arg	Arg	Thr	Leu	Pro	Thr	Gln	Gly	Ile	Asp	Asp	275	280	285
Phe	Phe	Lys	Asp	Lys	Ala	Lys	Ser	Lys	Thr	Leu	Asp	Phe	Ile	Asp	290	295	300
Val	Leu	Leu	Leu	Ser	Lys	Asp	Glu	Asp	Gly	Lys	Ala	Leu	Ser	Asp	305	310	315
Glu	Asp	Ile	Arg	Ala	Glu	Ala	Asp	Thr	Phe	Met	Phe	Gly	Gly	His	320	325	330
Asp	Thr	Thr	Ala	Ser	Gly	Leu	Ser	Trp	Val	Leu	Tyr	Asn	Leu	Ala	335	340	345
Arg	His	Pro	Glu	Tyr	Gln	Glu	Arg	Cys	Arg	Gln	Glu	Val	Gln	Glu	350	355	360
Leu	Leu	Lys	Asp	Arg	Asp	Pro	Lys	Glu	Ile	Glu	Trp	Asp	Asp	Leu	365	370	375
Ala	Gln	Leu	Pro	Phe	Leu	Thr	Met	Cys	Val	Lys	Glu	Ser	Leu	Arg	380	385	390
Leu	His	Pro	Pro	Ala	Pro	Phe	Ile	Ser	Arg	Cys	Cys	Thr	Gln	Asp	395	400	405
Ile	Val	Leu	Pro	Asp	Gly	Arg	Val	Ile	Pro	Lys	Gly	Ile	Thr	Cys	410	415	420
Leu	Ile	Asp	Ile	Ile	Gly	Val	His	His	Asn	Pro	Thr	Val	Trp	Pro	425	430	435
Asp	Pro	Glu	Val	Tyr	Asp	Pro	Phe	Arg	Phe	Asp	Pro	Glu	Asn	Ser	440	445	450

Lys	Gly	Arg	Ser	Pro	Leu	Ala	Phe	Ile	Pro	Phe	Ser	Ala	Gly	Pro
				455					460					465
Arg	Asn	Cys	Ile	Gly	Gln	Ala	Phe	Ala	Met	Ala	Glu	Met	Lys	Val
				470					475					480
Val	Leu	Ala	Leu	Met	Leu	Leu	His	Phe	Arg	Phe	Leu	Pro	Asp	His
				485					490					495
Thr	Glu	Pro	Arg	Arg	Lys	Leu	Glu	Leu	Ile	Met	Arg	Ala	Glu	Gly
				500					505					510
Gly	Leu	Trp	Leu	Arg	Val	Glu	Pro	Leu	Asn	Val	Gly	Leu	Gln	
				515					520					

<210> 265  
 <211> 584  
 <212> DNA  
 <213> Homo sapiens

<400> 265  
 caacagaagc caagaaggaa gccgtctatc ttgtggcgat catgtataag 50  
 ctggcctcct gctgtttgct tttcacagga ttcttaaadc ctctcttata 100  
 tcttcctctc cttgactcca gggaaatata ctttcaactc tcagcacctc 150  
 atgaagagcg gcgcttaact ccggaggagc tagaaagagc ttcccttcta 200  
 cagatattgc cagagatgct gggtgcagaa agaggggata ttctcaggaa 250  
 agcagactca agtaccaaca tttttaaccc aagaggaaat ttgagaaagt 300  
 ttcaggatth ctctggacaa gatactaaca ttttactgag tcatcttttg 350  
 gccagaatct ggaaaccata caagaaacgt gagactcctg attgcttctg 400  
 gaaatactgt gtctgaagtg aaataagcat ctgttagtca gctcagaaac 450  
 acccatctta gaatatgaaa aataacacaa tgcttgattt gaaaacagtg 500  
 tggagaaaaa ctaggcaaac tacaccctgt tcattgttac ctggaaaata 550  
 aatcctctat gttttgcaca aaaaaaaaaa aaaa 584

<210> 266  
 <211> 124  
 <212> PRT  
 <213> Homo sapiens

<400> 266  
 Met Tyr Lys Leu Ala Ser Cys Cys Leu Leu Phe Thr Gly Phe Leu  
 1 5 10 15  
 Asn Pro Leu Leu Ser Leu Pro Leu Leu Asp Ser Arg Glu Ile Ser  
 20 25 30  
 Phe Gln Leu Ser Ala Pro His Glu Asp Ala Arg Leu Thr Pro Glu  
 35 40 45  
 Glu Leu Glu Arg Ala Ser Leu Leu Gln Ile Leu Pro Glu Met Leu  
 50 55 60

Gly	Ala	Glu	Arg	Gly	Asp	Ile	Leu	Arg	Lys	Ala	Asp	Ser	Ser	Thr
				65					70					75
Asn	Ile	Phe	Asn	Pro	Arg	Gly	Asn	Leu	Arg	Lys	Phe	Gln	Asp	Phe
				80					85					90
Ser	Gly	Gln	Asp	Pro	Asn	Ile	Leu	Leu	Ser	His	Leu	Leu	Ala	Arg
				95					100					105
Ile	Trp	Lys	Pro	Tyr	Lys	Lys	Arg	Glu	Thr	Pro	Asp	Cys	Phe	Trp
				110					115					120

Lys Tyr Cys Val

<210> 267  
 <211> 654  
 <212> DNA  
 <213> Homo sapiens

<400> 267  
 gaacattttt agttcccaag gaatgtacat cagccccacg gaagctaggc 50  
 cacctctggg atgggggttg tggtttaaaa caaacgccag tcatcctata 100  
 taaggacctg acagccacca ggcaccacct ccgccaggaa ctgcaggccc 150  
 acctgtctgc aaccagctg aggccatgcc ctccccaggg accgtctgca 200  
 gcctcctgct cctcggcatg ctctggctgg acttggccat ggcaggctcc 250  
 agcttcctga gccctgaaca ccagagagtc cagcagagaa aggagtcgaa 300  
 gaagccacca gccaaagtgc agccccgagc tctagcaggc tggctccgcc 350  
 cggaagatgg aggtcaagca gaagggggcag aggatgaact ggaagtccgg 400  
 ttcaacgccc cttttgatgt tggaatcaag ctgtcagggg ttcagtacca 450  
 gcagcacagc caggccctgg ggaagtttct tcaggacatc ctctgggaag 500  
 aggccaaaga ggccccagcc gacaagtgat cgcacacaag cttactcac 550  
 ctctctctaa gtttagaagc gctcatctgg cttttcgctt gcttctgcag 600  
 caactcccac gactgttgta caagctcagg aggcgaataa atgttcaaac 650  
 tgta 654

<210> 268  
 <211> 117  
 <212> PRT  
 <213> Homo sapiens

<400> 268  
 Met Pro Ser Pro Gly Thr Val Cys Ser Leu Leu Leu Leu Gly Met  
 1 5 10 15  
 Leu Trp Leu Asp Leu Ala Met Ala Gly Ser Ser Phe Leu Ser Pro  
 20 25 30  
 Glu His Gln Arg Val Gln Gln Arg Lys Glu Ser Lys Lys Pro Pro  
 35 40 45

Ala	Lys	Leu	Gln	Pro	Arg	Ala	Leu	Ala	Gly	Trp	Leu	Arg	Pro	Glu
				50					55					60
Asp	Gly	Gly	Gln	Ala	Glu	Gly	Ala	Glu	Asp	Glu	Leu	Glu	Val	Arg
			65						70					75
Phe	Asn	Ala	Pro	Phe	Asp	Val	Gly	Ile	Lys	Leu	Ser	Gly	Val	Gln
				80					85					90
Tyr	Gln	Gln	His	Ser	Gln	Ala	Leu	Gly	Lys	Phe	Leu	Gln	Asp	Ile
				95					100					105
Leu	Trp	Glu	Glu	Ala	Lys	Glu	Ala	Pro	Ala	Asp	Lys			
				110					115					

<210> 269  
 <211> 1332  
 <212> DNA  
 <213> Homo sapiens

<400> 269  
 cggccacagc tggcatgctc tgccatgatcg ccacccctgct gtatgtcctc 50  
 gtccagtagc tcgtgaaccc cggggtgctc cgcacggacc ccagatgtca 100  
 agaatatgaa cacgtggctg ctgttcctcc cctgtttccc ggtgcagggtg 150  
 cagaccctga tagtcgtgat catcgggatg ctctgtctcc tgctggactt 200  
 tcttggtctg gtgcacctgg gccagctgct catcttccac atctacctga 250  
 gtatgtcccc caccctaagc ccccgatccc cccaaggctg ggtggtcaga 300  
 gctgctcatc ttacacctct acttgagtat gtccctaacc ctgagcccc 350  
 cacgcctggg gccagagtct ttgtcccccg tgtgcgcatg tgttcagggt 400  
 cagcctctcc cagaagttag atcatggaca aaaagggcaa atcacaggaa 450  
 gaaattaaat ccatgaggac ccagcaggcc cagcaagaag ctgaactcac 500  
 gccgagacct gcaggagtgg tgccagggtg ttgaagtaac aagtttaaaa 550  
 tgttcagaga caatggaatg gaatctatta ggcaagaaca ggacattatg 600  
 aaataaggac aggtggactt ccaaaaacac aagtagaaat tctaacaatg 650  
 aaatatatta caggcagggt acccactaac caaacaactg aagcgagagc 700  
 tgtggtcttg cttggtctca cagtgggcac agcggtaggc ggtcagtcac 750  
 gttgctgaac gacggagggt aaactcccca gcccgaagaa aacctgtgtt 800  
 ggaagtaaca acaacctccc tgctcctggc accagccgtt ttggtcatgg 850  
 tgggccagct gcaaagcgtc ttccattctc tgggcagtgg tggccccgag 900  
 gctgtggcct ctcaaggggt ttctgtggac acgggcagca gactgtgtcc 950  
 aggccagccc ccaagaatgc cctgtcctg acagcttggc caaccctgg 1000  
 tcagggcaga gggagttggg tgggtcaggc tctgggtca cctccatctc 1050



cagagcatcc cctgcctgca gttgtggcaa gaacgcccag ctcagaatga 1100  
 acacacccca ccaagagcct ccttggttcat aaccacaggt taccctacaa 1150  
 accactgtcc ccacacaacc ctgggggatgt tttaaaacac acacctctaa 1200  
 cgcatacttt acagtcactg ttgtcttgcc tgaggggtga atttttttta 1250  
 atgaaagtgc aatgaaaatc actggattaa atcctacgga cacagagctg 1300  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aa 1332

<210> 270  
 <211> 142  
 <212> PRT  
 <213> Homo sapiens

<400> 270  
 Met Asn Thr Trp Leu Leu Phe Leu Pro Leu Phe Pro Val Gln Val  
 1 5 10 15  
 Gln Thr Leu Ile Val Val Ile Ile Gly Met Leu Val Leu Leu Leu  
 20 25 30  
 Asp Phe Leu Gly Leu Val His Leu Gly Gln Leu Leu Ile Phe His  
 35 40 45  
 Ile Tyr Leu Ser Met Ser Pro Thr Leu Ser Pro Arg Ser Pro Gln  
 50 55 60  
 Gly Trp Val Val Arg Ala Ala His Leu Thr Pro Leu Leu Glu Tyr  
 65 70 75  
 Val Pro Asn Pro Glu Pro Pro Thr Pro Gly Ala Arg Val Phe Val  
 80 85 90  
 Pro Arg Val Arg Met Cys Ser Gly Ser Ala Ser Pro Arg Ser Glu  
 95 100 105  
 Ile Met Asp Lys Lys Gly Lys Ser Gln Glu Glu Ile Lys Ser Met  
 110 115 120  
 Arg Thr Gln Gln Ala Gln Gln Glu Ala Glu Leu Thr Pro Arg Pro  
 125 130 135  
 Ala Gly Val Val Pro Gly Ala  
 140

<210> 271  
 <211> 1484  
 <212> DNA  
 <213> Homo sapiens

<400> 271  
 ggagtgcaga tggcatcctt cggttcttcc agacaagctg caagacgctg 50  
 accatggcca agatggagct ctggaaggcc ttctctggcc agcggacact 100  
 cctatctgcc atcctcagca tgctatcact cagcttctcc acaacatccc 150  
 tgctcagcaa ctactggttt gtgggcacac agaaggtgcc caagcccctg 200  
 tgcgagaaag gtctggcagc caagtgcttt gacatgccag tgtccctgga 250

tggagatacc aacacatcca cccaggaggt ggtacaatac aactgggaga 300  
 ctggggatga ccggttctcc ttccggagct tccggagtgg catgtggcta 350  
 tcctgtgagg aaactgtgga agaaccaggg gagaggtgcc gaagtttcat 400  
 tgaacttaca ccaccagcca agagaggtga gaaaggacta ctggaatttg 450  
 ccacgttgca aggcccatgt caccctactc tccgatttgg agggaagcgg 500  
 ttgatggaga aggtcttccct cccctcccct cccttggggc tttgtggcaa 550  
 aaatcctatg gttatccctg ggaacgcaga tcacctacat cggacttcaa 600  
 ttcatcagct tcctcctgct actaacagac ttgctactca ctgggaaccc 650  
 tgcctgtggg ctcaaactga ggcctttgc tgctgtttcc tctgtcctgt 700  
 caggtctcct ggggatggtg gccacatga tgtattcaca agtcttccaa 750  
 gcgactgtca acttgggtcc agaagactgg agaccacatg tttggaatta 800  
 tggctggggc ttctacatgg cctggctctc cttcacctgc tgcatggcgt 850  
 cggctgtcac caccttcaac acgtacacca ggatggtgct ggagttcaag 900  
 tgcaagcata gtaagagctt caaggaaaac ccgaactgcc taccacatca 950  
 ccatcagtgt ttccctcggc ggctgtcaag tgcagcccc accgtgggtc 1000  
 ctttgaccag ctaccaccag tatcataatc agcccatcca ctctgtctct 1050  
 gagggagtgc acttctactc cgagctgcgg aacaagggat ttcaaagagg 1100  
 ggccagccag gagctgaaag aagcagttag gtcattctgta gaggaagagc 1150  
 agtgttagga gttaagcggg tttggggagt aggottgagc cctaccttac 1200  
 acgtctgctg attatcaaca tgtgtttaag ccaacatccg tctcttgagc 1250  
 atggttttta gaggctacga ataaggctat gaataagggt tatctttaag 1300  
 tcctaaggga ttcttgggtg ccaactgctct cttttcctct acagctccat 1350  
 cttgtttcac ccacccca tctcacacat ccagaattcc cttctttact 1400  
 gatagtttct gtgccagggt ctgggctaaa ccatggagat aaaaagaaga 1450  
 gtaaaatata cttcccgacc ttaaggatct gaaa 1484

<210> 272

<211> 285

<212> PRT

<213> Homo sapiens

<400> 272

Met	Ala	Lys	Met	Glu	Leu	Ser	Lys	Ala	Phe	Ser	Gly	Gln	Arg	Thr
1				5					10					15

Leu	Leu	Ser	Ala	Ile	Leu	Ser	Met	Leu	Ser	Leu	Ser	Phe	Ser	Thr
				20					25					30

Thr	Ser	Leu	Leu	Ser	Asn	Tyr	Trp	Phe	Val	Gly	Thr	Gln	Lys	Val
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----



accaaccagg gtagtggcat ggagcaccgt aaccatctgt gcttctgtga 250  
 tctctatgac agagccactt ctccacctct gaaatgttcc ctgctctgaa 300  
 atctggcatg agatggcaca ggtgaccacg cagaagccac cagaatcttg 350  
 cctgccctat tcctcctccc aagtctgttc tcttattgtc aacctcagca 400  
 caacaggctg gcgccaatgg cattacagag aaagcaatct gtgtggctag 450  
 tgggcagatt accatgcaag cccagggaga aatggaggag cttttagacc 500  
 acctccctgt cagccagtat taacatgtcc ccttccccct gccccgccgt 550  
 agattcagga cattcgcccc tgtgtgccac caaaccagga ctttccccct 600  
 ggcttggcat ccttggtctt ctctgggtac ccagcaagac gtctgttcca 650  
 gggcagtgtg gcatctttca agctccgtta ctatggcgat ggccatgatg 700  
 ttacaatccc acttgccctga ataataaagt gggaagggga agcagaggga 750  
 aatggggcca tgtgaatgca gctgctctgt tctccctacc ctgaggaaaa 800  
 accaaaggga agcaacagga acttctgcaa ctggttttta tcggaaagat 850  
 catcctgcct gcagatgctg ttgaaggggc acaagaaatg tagctggaga 900  
 agattgatga aagtgcaggt gtgtaaggaa atagaacagt ctgctgggag 950  
 tcagacctgg aattctgatt ccaaactctt tattactttg ggaagtcaact 1000  
 cagcctcccc gtagccatct ccagggtgac ggaaccaggt gtattacctg 1050  
 ctggaaccaa ggaaactaac aatgtaggtt actagtgaat accccaatgg 1100  
 tttctccaat tatgcccatg ccacaaaaac aataaaacaa aattctctaa 1150  
 cactgaaa 1158

<210> 274  
 <211> 86  
 <212> PRT  
 <213> Homo sapiens

<400> 274  
 Met Trp Leu Pro Leu Gly Leu Leu Ser Leu Cys Leu Ser Pro Leu  
 1 5 10 15  
 Pro Ile Leu Ser Ser Pro Ser Leu Lys Ser Gln Ala Cys Gln Gln  
 20 25 30  
 Leu Leu Trp Thr Leu Pro Ser Pro Leu Val Ala Phe Arg Ala Asn  
 35 40 45  
 Arg Thr Thr Tyr Val Met Asp Val Ser Thr Asn Gln Gly Ser Gly  
 50 55 60  
 Met Glu His Arg Asn His Leu Cys Phe Cys Asp Leu Tyr Asp Arg  
 65 70 75  
 Ala Thr Ser Pro Pro Leu Lys Cys Ser Leu Leu  
 80 85

<210> 275  
<211> 2694  
<212> DNA  
<213> Homo sapiens

<400> 275  
gtagcgcgtc ttgggtctcc cggtgcgcg tgctgccgcc gccgcctcgg 50  
gtcgtggagc caggagcgac gtcacogcca tggcaggcat caaagctttg 100  
attagtttgt cctttggagg agcaatcgga ctgatgtttt tgatgcttgg 150  
atgtgccctt ccaatataca acaaatactg gccctctttt gttctatttt 200  
tttacatcct ttcacctatt ccatactgca tagcaagaag attagtggat 250  
gatacagatg ctatgagtaa cgcttgtaag gaacttgcca tctttcttac 300  
aacgggcatt gtcgtgtcag cttttggact ccctattgta tttgccagag 350  
cacatctgat tgagtgggga gcttgtgcac ttgttctcac aggaaacaca 400  
gtcatctttg caactatact aggccttttc ttggctcttg gaagcaatga 450  
cgacttcagc tggcagcagt ggtgaaaaga aattactgaa ctattgtcaa 500  
atggacttcc tgtcatttgt tggccattca cgcacacagg agatggggca 550  
gttaatgctg aatggtatag caagcctctt ggggggtattt taggtgctcc 600  
cttctcactt ttattgtaag catactattt tcacagagac ttgctgaagg 650  
attaaaagga ttttctcttt tggaaaagct tgactgattt cacacttata 700  
tatagtatgc tttttgtggt gtctgtctga atttaaatat ttatgtgttt 750  
ttcctgttag gttgattttt tttggaatca atatgcaatg ttaaacaactt 800  
ttttaatgta atcatttgca ttggtttaga attcagaatt ccgccggctc 850  
tattactggt caagtacatc ttttctctta aaattattta gcctccatta 900  
ttacaaaaaa ttataaaaat aagttttcag tcagtcagga tgacatcact 950  
cccaatgtta tgcagacata cagacggttg gcatacgta tagactgtat 1000  
actcagtgc aatatagctg catatatacc tcagaggggc caagtgttaa 1050  
tgcccatgcc ctccgttaag ggttggttgg tttactggta gacagatgtt 1100  
ttgtggattg aaaattattt tatggaattg ctacagagga gtgcttttct 1150  
totcaattgt tagaagaatt tatgttaaac ttaaggtaa ggggtgtaaaa 1200  
acatttttga gataaggttt ttatttatgt ttattattgt tagagtgagt 1250  
tgcaatgtgg gaagaaatga cattgaaatt ccagtttttg aatcctgttt 1300  
ctattttataa gtgaaatttg tgatctccta tcaacctttc atgttttacc 1350  
ctgttaaaat ggacatacat ggaaccacta ctgatgaggg acagttgtat 1400  
gtttgcatca tatatgccag aaaaccttcc tctgcttcct ccttttgact 1450

tatttggtat gttgtatata ttacataaaa taacttttca aatatagttt 1500  
aataacactt agaagtgttt acttacctgg aaaataattg ctatgccgta 1550  
cattcagagt gccccctccc ctgcaaggcc ttgccatgat taacaagtaa 1600  
cttgtagtc ttacagataa ttcatgcatt aacagtttaa gatttagacc 1650  
atggtaatag tagttcttat tctctaaggt tatatcatat gtaatttaaa 1700  
agtattttta agacaagttt cctgtatacc tctgaactgt tttgattttg 1750  
agttcatcat gatagatctg ctgtttcctt ataaaaggca tttgttgtgt 1800  
gagttaatgc aaagtagcca agtccagcta tatagcagct tcagaaacat 1850  
acctgaccaa aaaattccca gtaaccaggc atgatcaatt tatagtggtc 1900  
gtttacatct aataattatc aggacttttt tcaggagtgg gttataaaaa 1950  
cattcaagtt ggtctgacag tattttgtta aggatatttg tttgtatgtt 2000  
tattcagtat acttacataa aaattatttc gccatcagcc aaaactcagt 2050  
aatcatgaca gotgtctgtt gttttatgaa gtttatttct caagaaaatg 2100  
ggaataaatt tgggatttgt tcagcttttt tactaaagat gcctaaagcc 2150  
acaggtttta ttgcctaact taagccatga cttttagata tgagatgacg 2200  
ggaagcagga cgaaatatcg gcgtgtggct ggagccttcc cactggaggc 2250  
tgaaagtggc ttgtggtatt ataatgttca gatttcaaga ggaaggtgca 2300  
ggtacacatg agtttagagag ctggtgagac agttgggaac tctttgtgct 2350  
tgtgatctac tggacttttt ttttgcagga agtgcattct ctggctcctt 2400  
cctattttct gttctggatg tcagtgcagt gcactgctac tgttttatcc 2450  
acttggccac agactttttc taacagctgc gtattatttc tatatactaa 2500  
ttgcattggc agcatttgtt ctttgacctt gtatactagc ttgacatagt 2550  
gctgtctctg atttctaggc tagttacttg agatatgaat tttccataga 2600  
atatgcactg atacaacatt accattcttc tatggaaaga aaacttttga 2650  
tgatgaaaca ataaagattt taaatatcta ttttaaaaaa aaaa 2694

<210> 276

<211> 131

<212> PRT

<213> Homo sapiens

<400> 276

Met Ala Gly Ile Lys Ala Leu Ile Ser Leu Ser Phe Gly Gly Ala  
1 5 10 15

Ile Gly Leu Met Phe Leu Met Leu Gly Cys Ala Leu Pro Ile Tyr  
20 25 30

Asn Lys Tyr Trp Pro Leu Phe Val Leu Phe Phe Tyr Ile Leu Ser

	35		40		45
Pro Ile Pro Tyr Cys	Ile Ala Arg Arg Leu Val Asp Asp Thr Asp				
50		55			60
Ala Met Ser Asn Ala Cys Lys Glu Leu Ala Ile Phe Leu Thr Thr					
65		70			75
Gly Ile Val Val Ser Ala Phe Gly Leu Pro Ile Val Phe Ala Arg					
80		85			90
Ala His Leu Ile Glu Trp Gly Ala Cys Ala Leu Val Leu Thr Gly					
95		100			105
Asn Thr Val Ile Phe Ala Thr Ile Leu Gly Phe Phe Leu Val Phe					
110		115			120
Gly Ser Asn Asp Asp Phe Ser Trp Gln Gln Trp					
125		130			

<210> 277  
 <211> 4104  
 <212> DNA  
 <213> Homo sapiens

<400> 277  
 cccacgcgtc cgcccacgcg tccgcccacg cgtccgcca cgcgctccgcc 50  
 cacgcgtccg cccacgcgtc cgcccacgcg tccggtgcaa gctcgcgcgcg 100  
 cacactgcct ggtggaggga aggagcccgg gcgcctctcg ccgctccccg 150  
 cgccgcgcgtc cgcacctccc caccgcccgc cgcccgccgc ccgcccgcgcg 200  
 caaagcatga gtgagcccgc tctctgcagc tgcccggggc gcgaatggca 250  
 ggctgtttcc gcggagtaaa aggtggcgcc ggtcagtggc cgtttccaat 300  
 gacggacatt aaccagactg tcagatcctg gggagtcgcg agccccgagt 350  
 ttggagtttt ttccccccac aacgtcacag tccgaactgc agagggaaag 400  
 gaaggcggca ggaaggcgaa gtcggggctc cggcacgtag ttgggaaact 450  
 tgccgggtcct agaagtgcgc tccccgcctt gccggccgcgc cttgcagccc 500  
 cgagccgagc agcaaagtga gacattgtgc gcctgccaga tccgccgggc 550  
 gcggaccggg gctgcctcgg aaacacagag ggggtcttctc tcgccctgca 600  
 tataattagc ctgcacacaa agggagcagc tgaatggagg ttgtcactct 650  
 ctggaaaagg atttctgacc gagcgcttcc aatggacatt ctccagtctc 700  
 tctggaaaga ttctcgctaa tggatttctc gctgctcggc ctctgtctat 750  
 actggctgct gaggaggccc tcgggggtgg tcttgtgtct gctggggggc 800  
 tgctttcaga tgctgcccgc cgccccagc ggggtgcccgc agctgtgccg 850  
 gtgcgagggg cggtgctgt actgcgaggc gctcaacctc accgaggcgc 900  
 cccacaacct gtccggcctg ctgggcttgt ccctgcgcta caacagcctc 950

tcggagctgc gcgccggcca gttcacgggg ttaatgcagc tcacgtggct 1000  
 ctatctggat cacaatcaca tctgctccgt gcagggggac gcctttcaga 1050  
 aactgcgccg agttaaggaa ctcacgctga gttccaacca gatcacccaa 1100  
 ctgcccaca ccaccttccg gcccatgccc aaactgcgca gcgtggacct 1150  
 ctcgtacaac aagctgcagg cgctcgcgcc cgacctcttc cacgggctgc 1200  
 ggaagctcac cacgctgcat atgcgggcca acgccatcca gtttgtgccc 1250  
 gtgcgcatct tccaggactg ccgcagcctc aagtttctcg acatcggata 1300  
 caatcagctc aagagtctgg cgcgcaactc tttcgccggc ttgtttaagc 1350  
 tcaccgagct gcacctcgag cacaacgact tggtaaggt gaacttcgcc 1400  
 cacttcccgc gctcatctc cctgcaactc ctctgcctgc ggaggaacaa 1450  
 ggtggccatt gtggtcagct cgctggactg ggtttggaac ctggagaaaa 1500  
 tggacttgtc gggcaacgag atcgagtaca tggagcccca tgtgttcgag 1550  
 accgtgcgc acctgcagtc cctgcagctg gactccaacc gcctcaccta 1600  
 catcgagccc cggatcctca actcttgga gtccctgaca agcatcacc 1650  
 tggccgggaa cctgtgggat tgcgggcgca acgtgtgtgc cctagcctcg 1700  
 tggctcagca acttccagg ggcgtacgat ggcaacttgc agtgcgccag 1750  
 cccggagtac gcacagggcg aggacgtcct ggacgcctg tacgccttcc 1800  
 acctgtgoga ggatggggcc gagcccacca gcggccacct gctctcgcc 1850  
 gtcaccaacc gcagtgatct ggggccccct gccagctcgg ccaccacgct 1900  
 cgcggacggc ggggaggggc agcacgacgg cacattcgag cctgccaccg 1950  
 tggctcttcc aggcggcgag cagcccgaga acgccgtgca gatccacaag 2000  
 gtggtcacgg gcaccatggc cctcatcttc tccttcctca tcgtggctct 2050  
 ggtgctctac gtgtcctgga agtgtttccc agccagcctc aggcagctca 2100  
 gacagtgctt tgtcacgag cgcaggaagc aaaagcagaa acagaccatg 2150  
 catcagatgg ctgccatgtc tgcccaggaa tactacgttg attacaaacc 2200  
 gaaccacatt gagggagccc tggatgatcat caacgagtat ggctcgtgta 2250  
 cctgccacca gcagcccgcg agggaatgcg aggtgtgatt gtcccagtgg 2300  
 ctctcaacc atgcgtacc aaatacgctt gggcagccgg gacgggccc 2350  
 cgggcaccag gctggggtct ccttgtctgt gctctgatat gctccttgac 2400  
 tgaaacttta aggggatctc tccagagac ttgacatatt agctttattg 2450  
 tgtcttaaaa acaaaagcga attaaaacac aacaaaaaac cccacccac 2500  
 aaccttcagg acagtctatc ttaaatttca tatgagaact ccttcctccc 2550



tttgaagatc tgtccatatt caggaatctg agagtgtaaa aaaggtggcc 2600  
 ataagacaga gagagaataa tcgtgctttg ttttatgcta ctcctccac 2650  
 cctgcccacg attaaacatc atgtatgtag aagatcttaa gtccatacgc 2700  
 atttcatgaa gaaccattgg aaagaggaat ctgcaatctg ggagcttaag 2750  
 agcaaagtat gaccatagaa agctatgttc ttactttgtg tgtgtgtctg 2800  
 tatgtttctg cgttgtgtgt cttttagtagc aagcaaacgt tgtctacaca 2850  
 aacgggaatt tagctcacat catttcatgc ccctgtgcct ctagctctgg 2900  
 agattgggtg ggggaggtg ggggaaacgg caggaataag ggaaagtgg 2950  
 agttttaact aaggttttgt aacacttgaa atcttttctt tctcaaatta 3000  
 attatcttta agcttcaaga aacttgctct gaccctcta agcaaactac 3050  
 taagcattta aaagagaatc taatttttaa aggtgtagca cttttttttt 3100  
 tattcttccc acagaggggtg ctaatctcat tatgtgtgct tatctgaaaa 3150  
 gaacttaagg ccacaattca cgtctcgtcc tgggcattgt gatggattga 3200  
 ccctccattt gcagtacctt ccagctgat taaagttcag cagtggatt 3250  
 gaggtttttc gaatatattat atagaaaaaa agtcttttca catgacaaat 3300  
 gacactctca caccagtctt agccctagta gtttttagg ttggaccaga 3350  
 ggaagcaggt taaatgagac ctgtcctctg ctgcactcag aaaaaatagg 3400  
 cagtccctga tgctcagatc ttagccttga tattaatagt tgagaccacc 3450  
 taccacaat gcagcctata ctccaagac tacaaagtta ccatcgcaaa 3500  
 ggaaagggtta ttocagtaaa aggaaatagt tttctcaacc atttaaaaat 3550  
 attcttctga actcatcaaa gtagaagagc cccaacctt ttctctctgc 3600  
 cttcaagaag gcagacattt ggtatgattt agcatcaaca acacatttat 3650  
 gagtatatgt aagtaatcag aggggcaaatt gccacttggt attcctccca 3700  
 agttttccaa gcaagtacac acagatctct gtaggatta ggggccactt 3750  
 gtgtttccgg cttatttttag tcgacttgct agcaagtttg atgcctagtc 3800  
 tatctgacat ggcccagtag aacagggcat tgatggatca catgagatgg 3850  
 tagaaggaac atcatcacat acccctctca cagagaaaat tatcaaagaa 3900  
 ccagaaatta tatctgtttt ggagcaagag tgcataatg tttcagggtta 3950  
 gtcaaaataa acataaatta tctcctctag atgagtggcg atgttggctg 4000  
 atttgggtct gccattgaca gaatgtcaaa taaaaggaa ttagctagaa 4050  
 tatgaccatt aaatgtgctt ctgaaatata ttttgagata ggtttagaat 4100  
 gtca 4104

<210> 278  
 <211> 522  
 <212> PRT  
 <213> Homo sapiens

<400> 278

Met	Asp	Phe	Leu	Leu	Leu	Gly	Leu	Cys	Leu	Tyr	Trp	Leu	Leu	Arg	1	5	10	15
Arg	Pro	Ser	Gly	Val	Val	Leu	Cys	Leu	Leu	Gly	Ala	Cys	Phe	Gln	20	25	30	
Met	Leu	Pro	Ala	Ala	Pro	Ser	Gly	Cys	Pro	Gln	Leu	Cys	Arg	Cys	35	40	45	
Glu	Gly	Arg	Leu	Leu	Tyr	Cys	Glu	Ala	Leu	Asn	Leu	Thr	Glu	Ala	50	55	60	
Pro	His	Asn	Leu	Ser	Gly	Leu	Leu	Gly	Leu	Ser	Leu	Arg	Tyr	Asn	65	70	75	
Ser	Leu	Ser	Glu	Leu	Arg	Ala	Gly	Gln	Phe	Thr	Gly	Leu	Met	Gln	80	85	90	
Leu	Thr	Trp	Leu	Tyr	Leu	Asp	His	Asn	His	Ile	Cys	Ser	Val	Gln	95	100	105	
Gly	Asp	Ala	Phe	Gln	Lys	Leu	Arg	Arg	Val	Lys	Glu	Leu	Thr	Leu	110	115	120	
Ser	Ser	Asn	Gln	Ile	Thr	Gln	Leu	Pro	Asn	Thr	Thr	Phe	Arg	Pro	125	130	135	
Met	Pro	Asn	Leu	Arg	Ser	Val	Asp	Leu	Ser	Tyr	Asn	Lys	Leu	Gln	140	145	150	
Ala	Leu	Ala	Pro	Asp	Leu	Phe	His	Gly	Leu	Arg	Lys	Leu	Thr	Thr	155	160	165	
Leu	His	Met	Arg	Ala	Asn	Ala	Ile	Gln	Phe	Val	Pro	Val	Arg	Ile	170	175	180	
Phe	Gln	Asp	Cys	Arg	Ser	Leu	Lys	Phe	Leu	Asp	Ile	Gly	Tyr	Asn	185	190	195	
Gln	Leu	Lys	Ser	Leu	Ala	Arg	Asn	Ser	Phe	Ala	Gly	Leu	Phe	Lys	200	205	210	
Leu	Thr	Glu	Leu	His	Leu	Glu	His	Asn	Asp	Leu	Val	Lys	Val	Asn	215	220	225	
Phe	Ala	His	Phe	Pro	Arg	Leu	Ile	Ser	Leu	His	Ser	Leu	Cys	Leu	230	235	240	
Arg	Arg	Asn	Lys	Val	Ala	Ile	Val	Val	Ser	Ser	Leu	Asp	Trp	Val	245	250	255	
Trp	Asn	Leu	Glu	Lys	Met	Asp	Leu	Ser	Gly	Asn	Glu	Ile	Glu	Tyr	260	265	270	
Met	Glu	Pro	His	Val	Phe	Glu	Thr	Val	Pro	His	Leu	Gln	Ser	Leu	275	280	285	

Gln	Leu	Asp	Ser	Asn	Arg	Leu	Thr	Tyr	Ile	Glu	Pro	Arg	Ile	Leu	290	295	300
Asn	Ser	Trp	Lys	Ser	Leu	Thr	Ser	Ile	Thr	Leu	Ala	Gly	Asn	Leu	305	310	315
Trp	Asp	Cys	Gly	Arg	Asn	Val	Cys	Ala	Leu	Ala	Ser	Trp	Leu	Ser	320	325	330
Asn	Phe	Gln	Gly	Arg	Tyr	Asp	Gly	Asn	Leu	Gln	Cys	Ala	Ser	Pro	335	340	345
Glu	Tyr	Ala	Gln	Gly	Glu	Asp	Val	Leu	Asp	Ala	Val	Tyr	Ala	Phe	350	355	360
His	Leu	Cys	Glu	Asp	Gly	Ala	Glu	Pro	Thr	Ser	Gly	His	Leu	Leu	365	370	375
Ser	Ala	Val	Thr	Asn	Arg	Ser	Asp	Leu	Gly	Pro	Pro	Ala	Ser	Ser	380	385	390
Ala	Thr	Thr	Leu	Ala	Asp	Gly	Gly	Glu	Gly	Gln	His	Asp	Gly	Thr	395	400	405
Phe	Glu	Pro	Ala	Thr	Val	Ala	Leu	Pro	Gly	Gly	Glu	His	Ala	Glu	410	415	420
Asn	Ala	Val	Gln	Ile	His	Lys	Val	Val	Thr	Gly	Thr	Met	Ala	Leu	425	430	435
Ile	Phe	Ser	Phe	Leu	Ile	Val	Val	Leu	Val	Leu	Tyr	Val	Ser	Trp	440	445	450
Lys	Cys	Phe	Pro	Ala	Ser	Leu	Arg	Gln	Leu	Arg	Gln	Cys	Phe	Val	455	460	465
Thr	Gln	Arg	Arg	Lys	Gln	Lys	Gln	Lys	Gln	Thr	Met	His	Gln	Met	470	475	480
Ala	Ala	Met	Ser	Ala	Gln	Glu	Tyr	Tyr	Val	Asp	Tyr	Lys	Pro	Asn	485	490	495
His	Ile	Glu	Gly	Ala	Leu	Val	Ile	Ile	Asn	Glu	Tyr	Gly	Ser	Cys	500	505	510
Thr	Cys	His	Gln	Gln	Pro	Ala	Arg	Glu	Cys	Glu	Val				515	520	

<210> 279

<211> 46

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 279

tccgtgcagg gggacgcctt tcagaaactg cgccgagtta aggaac 46

<210> 280

<211> 709

<212> DNA

<213> Homo sapiens

<400> 280  
gtgcaaggag ccgagggcgag atgggcggtcc tggggccgggt cctgctgtgg 50  
ctgcagctct gcgcactgac ccaggcgggtc tccaaactct gggcccccaa 100  
cacggacttc gacgtcgcag ccaactggag ccagaaccgg accccgtgcg 150  
ccggcggcgc cgttgagttc ccggcggaca agatgggtgc agtcctgggtg 200  
caagaaggtc acgccgtctc agacatgctc ctgccgctgg atgggggaact 250  
cgtcctgggt tcaggagccg gattcggcgt ctcagacgtg ggctcgcacc 300  
tggaactgtg cgcgggcgaa cctgccgtct tccgcgactc tgaccgcttc 350  
tcctggcatg acccgcacct gtggcgctct ggggacgagg cacctggcct 400  
cttcttcgtg gacgccgagc gcgtgccctg ccgccacgac gacgtcttct 450  
ttccgcctag tgctctcttc cgcgtggggc tcggccctgg cgctagcccc 500  
gtgcgtgtcc gcagcatctc ggctctgggc cggacgttca cgcgcgacga 550  
ggacctgggt gttttcctgg cgtcccgcgc gggccgccta cgcttccacg 600  
ggccggggcgc gctgagcgtg ggccccgagg actgcgcgga cccgtcgggc 650  
tgcgctgcg gcaacgcgga ggcgagccg tggatctgcg cgccctgct 700  
ccagccccct 709

<210> 281  
<211> 229  
<212> PRT  
<213> Homo sapiens

<400> 281  
Met Gly Val Leu Gly Arg Val Leu Leu Trp Leu Gln Leu Cys Ala  
1 5 10 15  
Leu Thr Gln Ala Val Ser Lys Leu Trp Val Pro Asn Thr Asp Phe  
20 25 30  
Asp Val Ala Ala Asn Trp Ser Gln Asn Arg Thr Pro Cys Ala Gly  
35 40 45  
Gly Ala Val Glu Phe Pro Ala Asp Lys Met Val Ser Val Leu Val  
50 55 60  
Gln Glu Gly His Ala Val Ser Asp Met Leu Leu Pro Leu Asp Gly  
65 70 75  
Glu Leu Val Leu Ala Ser Gly Ala Gly Phe Gly Val Ser Asp Val  
80 85 90  
Gly Ser His Leu Asp Cys Gly Ala Gly Glu Pro Ala Val Phe Arg  
95 100 105  
Asp Ser Asp Arg Phe Ser Trp His Asp Pro His Leu Trp Arg Ser  
110 115 120  
Gly Asp Glu Ala Pro Gly Leu Phe Phe Val Asp Ala Glu Arg Val  
125 130 135

Pro	Cys	Arg	His	Asp	Asp	Val	Phe	Phe	Pro	Pro	Ser	Ala	Ser	Phe
				140					145					150
Arg	Val	Gly	Leu	Gly	Pro	Gly	Ala	Ser	Pro	Val	Arg	Val	Arg	Ser
				155					160					165
Ile	Ser	Ala	Leu	Gly	Arg	Thr	Phe	Thr	Arg	Asp	Glu	Asp	Leu	Ala
				170					175					180
Val	Phe	Leu	Ala	Ser	Arg	Ala	Gly	Arg	Leu	Arg	Phe	His	Gly	Pro
				185					190					195
Gly	Ala	Leu	Ser	Val	Gly	Pro	Glu	Asp	Cys	Ala	Asp	Pro	Ser	Gly
				200					205					210
Cys	Val	Cys	Gly	Asn	Ala	Glu	Ala	Gln	Pro	Trp	Ile	Cys	Ala	Ala
				215					220					225
Leu	Leu	Gln	Pro											

<210> 282  
 <211> 644  
 <212> DNA  
 <213> Homo sapiens

<400> 282  
 atcgcatcaa ttgggagtag catcttcctc atgggaccag tgaaacagct 50  
 gaagcgaatg tttgagccta ctcgtttgat tgcaactatc atggtgctgt 100  
 tgtgttttgc acttaccctg tgttctgcct tttggtggca taacaaggga 150  
 cttgcaacta tottctgcat tttgcagtct ttggcattga cgtggtacag 200  
 cctttccttc ataccatttg caagggatgc tgtgaagaag tgttttgccg 250  
 tgtgtcttgc ataattcatg gccagtttta tgaagctttg gaaggcacta 300  
 tggacagaag ctggtggaca gttttgtaac tatcttcgaa acctctgtct 350  
 tacagacatg tgccttttat cttgcagcaa tgtgttgctt gtgattcgaa 400  
 catttgaggg ttacttttgg aagcaacaat acattctcga acctgaatgt 450  
 cagtagcaca ggatgagaag tgggttctgt atcttgtgga gtggaatctt 500  
 cctcatgtac ctgtttcctc tctggatgtt gtccactga attcccatga 550  
 atacaaacct attcagcaac agcaaaaaaa aaaaaaaaaa aaaaaaaaaa 600  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa 644

<210> 283  
 <211> 77  
 <212> PRT  
 <213> Homo sapiens

<400> 283  
 Met Gly Pro Val Lys Gln Leu Lys Arg Met Phe Glu Pro Thr Arg  
 1 5 10 15  
 Leu Ile Ala Thr Ile Met Val Leu Leu Cys Phe Ala Leu Thr Leu

	20		25		30
Cys Ser Ala Phe Trp Trp His Asn Lys Gly Leu Ala Leu Ile Phe					
	35		40		45
Cys Ile Leu Gln Ser Leu Ala Leu Thr Trp Tyr Ser Leu Ser Phe					
	50		55		60
Ile Pro Phe Ala Arg Asp Ala Val Lys Lys Cys Phe Ala Val Cys					
	65		70		75
Leu Ala					

<210> 284  
 <211> 2623  
 <212> DNA  
 <213> Homo sapiens

<400> 284  
 ttgagcgcag gtgagctcct ggcgcgttccg ggggcgttcc tccagtcacc 50  
 ctcccgccgt taccgcgggc gcgcccagg gagtctctc cagaccctcc 100  
 ctcccggttg tccaaactaa tacggactga acggatcgct gcgaggggtg 150  
 gagagaaaat tagggggaga aaggacagag agagcaacta ccatccatag 200  
 ccagatagat tatcttacac tgaactgac aagtactttg aaaatgactt 250  
 cgaaatttat cttggtgtcc ttcatacttg ctgcactgag tctttcaacc 300  
 accttttctc tccaactaga ccagcaaaag gttctactag tttcttttga 350  
 tggattccgt tgggattact tatataaagt tccaacgccc cattttcatt 400  
 atattatgaa atatggtggt cacgtgaagc aagttactaa tgtttttatt 450  
 acaaaaacct accctaacca ttatactttg gtaactggcc tctttgcaga 500  
 gaatcatggg attgttgcaa atgatatggt tgatcctatt cggaacaaat 550  
 ctttctcctt ggatcacatg aatatttatg attccaagtt ttgggaagaa 600  
 gcgacaccaa tatggatcac aaaccagagg gcaggacata ctagtggtgc 650  
 agccatgttg ccggaacag atgtaaaaat acataagcgc tttcctactc 700  
 attacatgcc ttacaatgag tcagtttcat ttgaagatag agttgccaaa 750  
 attgttgaat ggtttacgtc aaaagagccc ataaatcttg gtcttctota 800  
 ttgggaagac cctgatgaca tgggccacca tttgggacct gacagtccgc 850  
 tcatggggcc tgtcatttca gatattgaca agaagttagg atatctcata 900  
 caaatgctga aaaaggcaaa gttgtggaac actctgaacc taatcatcac 950  
 aagtgatcat ggaatgacgc agtgctctga ggaaaggta atagaacttg 1000  
 accagtacct ggataaagac cactataccc tgattgatca atctccagta 1050  
 gcagccatct tgccaaaaga aggtaaattt gatgaagtct atgaagcact 1100

aactcacgct catcctaatac ttactgttta caaaaaagaa gacgttccag 1150  
aaaggtggca ttacaaatac aacagtcgaa ttcaaccaat catagcagtg 1200  
gctgatgaag ggtggcacat ttacagaat aagtcagatg actttctgtt 1250  
aggcaaccac ggtaacgata atgcgttagc agatatgcat ccaatatttt 1300  
tagcccatgg tctgccttc agaaagaatt tctcaaaaga agccatgaac 1350  
tccacagatt tgtaccact actatgccac ctctcaata tcaactgcat 1400  
gccacacaat ggatcattct ggaatgtcca ggatctgctc aattcagcaa 1450  
tgccaagggt ggtcccttat acacagagta ctatactcct ccctggtagt 1500  
gttaaaccag cagaatatga ccaagagggg tcataccctt atttcatagg 1550  
ggctctcttt ggcagcatta tagtgattgt attttttcta attttcatta 1600  
agcatttaat tcacagtcaa atacctgcct tacaagatat gcatgctgaa 1650  
atagctcaac cattattaca agcctaattg tactttgaag tggatttgca 1700  
tattgaagtg gagattccat aattatgtca gtgttttaaag gtttcaaatt 1750  
ctgggaaacc agttccaaac atctgcagaa accattaagc agttacatat 1800  
ttaggtatac acacacacac acacacacac atacacacac acggaccaa 1850  
atacttacac ctgcaaagga ataaagatgt gagagtatgt ctccattggt 1900  
caactgtagca tagggataga taagatcctg ctttatttgg acttggcgca 1950  
gataatgtat atatttagca actttgcact atgtaaagta ccttatatat 2000  
tgcactttta atttctctcc tgatgggtac ttaatttga aatgcacttt 2050  
atggacagtt atgtcttata acttgattga aaatgacaac tttttgcacc 2100  
catgtcacag aatacttggt acgcattgtt caaactgaag gaaatttcta 2150  
ataatcccga ataatgaaca tagaaatcta tctccataaa ttgagagaag 2200  
aagaagggtga taagtgtga aaattaaatg tgataacctt tgaaccttga 2250  
attttggaga tgtattccca acagcagaat gcaactgtgg gcatttcttg 2300  
tcttatttct ttccagagaa cgtggttttc atttattttt ccctcaaaag 2350  
agagtcaaact actgacagat tcgttctaaa tatattgttt ctgtcataaa 2400  
attattgtga tttcctgatg agtcatatta ctgtgatttt cataataatg 2450  
aagacaccat gaatatactt ttcttctata tagttcagca atggcctgaa 2500  
tagaagcaac caggcaccat ctgagcaatg ttttctcttg tttgtaatta 2550  
tttgctcctt tgaaaattaa atcactatta attacattaa aaatcaaatt 2600  
ggataaaaaa aaaaaaaaaa aaa 2623

<210> 285

<211> 477  
 <212> PRT  
 <213> Homo sapiens

<400> 285

Met	Thr	Ser	Lys	Phe	Ile	Leu	Val	Ser	Phe	Ile	Leu	Ala	Ala	Leu	
1				5					10					15	
Ser	Leu	Ser	Thr	Thr	Phe	Ser	Leu	Gln	Leu	Asp	Gln	Gln	Lys	Val	
				20					25					30	
Leu	Leu	Val	Ser	Phe	Asp	Gly	Phe	Arg	Trp	Asp	Tyr	Leu	Tyr	Lys	
				35					40					45	
Val	Pro	Thr	Pro	His	Phe	His	Tyr	Ile	Met	Lys	Tyr	Gly	Val	His	
				50					55					60	
Val	Lys	Gln	Val	Thr	Asn	Val	Phe	Ile	Thr	Lys	Thr	Tyr	Pro	Asn	
				65					70					75	
His	Tyr	Thr	Leu	Val	Thr	Gly	Leu	Phe	Ala	Glu	Asn	His	Gly	Ile	
				80					85					90	
Val	Ala	Asn	Asp	Met	Phe	Asp	Pro	Ile	Arg	Asn	Lys	Ser	Phe	Ser	
				95					100					105	
Leu	Asp	His	Met	Asn	Ile	Tyr	Asp	Ser	Lys	Phe	Trp	Glu	Glu	Ala	
				110					115					120	
Thr	Pro	Ile	Trp	Ile	Thr	Asn	Gln	Arg	Ala	Gly	His	Thr	Ser	Gly	
				125					130					135	
Ala	Ala	Met	Trp	Pro	Gly	Thr	Asp	Val	Lys	Ile	His	Lys	Arg	Phe	
				140					145					150	
Pro	Thr	His	Tyr	Met	Pro	Tyr	Asn	Glu	Ser	Val	Ser	Phe	Glu	Asp	
				155					160					165	
Arg	Val	Ala	Lys	Ile	Val	Glu	Trp	Phe	Thr	Ser	Lys	Glu	Pro	Ile	
				170					175					180	
Asn	Leu	Gly	Leu	Leu	Tyr	Trp	Glu	Asp	Pro	Asp	Asp	Met	Gly	His	
				185					190					195	
His	Leu	Gly	Pro	Asp	Ser	Pro	Leu	Met	Gly	Pro	Val	Ile	Ser	Asp	
				200					205					210	
Ile	Asp	Lys	Lys	Leu	Gly	Tyr	Leu	Ile	Gln	Met	Leu	Lys	Lys	Ala	
				215					220					225	
Lys	Leu	Trp	Asn	Thr	Leu	Asn	Leu	Ile	Ile	Thr	Ser	Asp	His	Gly	
				230					235					240	
Met	Thr	Gln	Cys	Ser	Glu	Glu	Arg	Leu	Ile	Glu	Leu	Asp	Gln	Tyr	
				245					250					255	
Leu	Asp	Lys	Asp	His	Tyr	Thr	Leu	Ile	Asp	Gln	Ser	Pro	Val	Ala	
				260					265					270	
Ala	Ile	Leu	Pro	Lys	Glu	Gly	Lys	Phe	Asp	Glu	Val	Tyr	Glu	Ala	
				275					280					285	
Leu	Thr	His	Ala	His	Pro	Asn	Leu	Thr	Val	Tyr	Lys	Lys	Glu	Asp	



290										295					300				
Val	Pro	Glu	Arg	Trp	His	Tyr	Lys	Tyr	Asn	Ser	Arg	Ile	Gln	Pro					
				305					310					315					
Ile	Ile	Ala	Val	Ala	Asp	Glu	Gly	Trp	His	Ile	Leu	Gln	Asn	Lys					
				320					325					330					
Ser	Asp	Asp	Phe	Leu	Leu	Gly	Asn	His	Gly	Tyr	Asp	Asn	Ala	Leu					
				335					340					345					
Ala	Asp	Met	His	Pro	Ile	Phe	Leu	Ala	His	Gly	Pro	Ala	Phe	Arg					
				350					355					360					
Lys	Asn	Phe	Ser	Lys	Glu	Ala	Met	Asn	Ser	Thr	Asp	Leu	Tyr	Pro					
				365					370					375					
Leu	Leu	Cys	His	Leu	Leu	Asn	Ile	Thr	Ala	Met	Pro	His	Asn	Gly					
				380					385					390					
Ser	Phe	Trp	Asn	Val	Gln	Asp	Leu	Leu	Asn	Ser	Ala	Met	Pro	Arg					
				395					400					405					
Val	Val	Pro	Tyr	Thr	Gln	Ser	Thr	Ile	Leu	Leu	Pro	Gly	Ser	Val					
				410					415					420					
Lys	Pro	Ala	Glu	Tyr	Asp	Gln	Glu	Gly	Ser	Tyr	Pro	Tyr	Phe	Ile					
				425					430					435					
Gly	Val	Ser	Leu	Gly	Ser	Ile	Ile	Val	Ile	Val	Phe	Phe	Val	Ile					
				440					445					450					
Phe	Ile	Lys	His	Leu	Ile	His	Ser	Gln	Ile	Pro	Ala	Leu	Gln	Asp					
				455					460					465					
Met	His	Ala	Glu	Ile	Ala	Gln	Pro	Leu	Leu	Gln	Ala								
				470					475										

<210> 286  
 <211> 1337  
 <212> DNA  
 <213> Homo sapiens

<400> 286  
 ggatttttgt gatccgcgat tcgctccac gggcgggacc tttgtaactg 50  
 cgggaggccc aggacaggcc caccctgcgg gcggggaggc agccggggtg 100  
 agggaggtga agaaaccaag acgcagagag gccaagcccc ttgccttggg 150  
 tcacacagcc aaaggaggca gagccagaac tcacaaccag atccagaggc 200  
 aacagggaca tggccacctg ggacgaaaag gcagtcaccc gcagggccaa 250  
 ggtggctccc gctgagagga tgagcaagtt ctttaaggcac ttcacggtcg 300  
 tgggagacga ctaccatgcc tggaacatca actacaagaa atgggagaat 350  
 gaagaggagg aggaggagga ggagcagcca ccacccacac cagtctcagg 400  
 cgaggaaggc agagctgcag cccttgacgt tgcccctgcc cctggccccg 450  
 caccagggc ccccttgac ttcaggggca tgttgaggaa actgttcagc 500

tcccacaggt ttcaggtcat catcatctgc ttggtggttc tggatgccct 550  
 cctgggtgctt gctgagctca tcctggacct gaagatcatc cagcccgaca 600  
 agaataacta tgctgccatg gtattccact acatgagcat caccatcttg 650  
 gtctttttta tgatggagat catctttaaa ttatttgtct tccgcctgag 700  
 ttcttttcacc acaagtttga gatcctggat gcccgtcgtg gtgggtggtct 750  
 cattcatcct ggacattgtc ctctgttcc aggagcacca gtttgaggct 800  
 ctgggcctgc tgattctgct ccggctgtgg cgggtggccc ggatcatcaa 850  
 tgggattatc atctcagtta agacacgttc agaacggcaa ctcttaaggt 900  
 taaaacagat gaatgtacaa ttggccgcca agattcaaca ccttgagttc 950  
 agctgctctg agaagcccct ggactgatga gtttgctgta tcaacctgta 1000  
 aggagaagct ctctccggat ggctatggga atgaaagaat ccgacttcta 1050  
 ctctcacaca gccaccgtga aagtccctgga gtaaaatgtg ctgtgtacag 1100  
 aagagagaga aggaagcagg ctggcatgtt cactgggctg gtgttaogac 1150  
 agagaacctg acagtcactg gccagttatc acttcagatt acaaatacaca 1200  
 cagagcatct gcctgttttc aatcacaaga gaacaaaacc aaaatctata 1250  
 aagatattct gaaaatatga cagaatttga caaataaaaag cataaacgtg 1300  
 taaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaa 1337

<210> 287

<211> 255

<212> PRT

<213> Homo sapiens

<400> 287

Met	Ala	Thr	Trp	Asp	Glu	Lys	Ala	Val	Thr	Arg	Arg	Ala	Lys	Val	1	5	10	15
Ala	Pro	Ala	Glu	Arg	Met	Ser	Lys	Phe	Leu	Arg	His	Phe	Thr	Val	20	25	30	
Val	Gly	Asp	Asp	Tyr	His	Ala	Trp	Asn	Ile	Asn	Tyr	Lys	Lys	Trp	35	40	45	
Glu	Asn	Glu	Glu	Glu	Glu	Glu	Glu	Glu	Glu	Gln	Pro	Pro	Pro	Thr	50	55	60	
Pro	Val	Ser	Gly	Glu	Glu	Gly	Arg	Ala	Ala	Ala	Pro	Asp	Val	Ala	65	70	75	
Pro	Ala	Pro	Gly	Pro	Ala	Pro	Arg	Ala	Pro	Leu	Asp	Phe	Arg	Gly	80	85	90	
Met	Leu	Arg	Lys	Leu	Phe	Ser	Ser	His	Arg	Phe	Gln	Val	Ile	Ile	95	100	105	
Ile	Cys	Leu	Val	Val	Leu	Asp	Ala	Leu	Leu	Val	Leu	Ala	Glu	Leu	110	115	120	

Ile	Leu	Asp	Leu	Lys	Ile	Ile	Gln	Pro	Asp	Lys	Asn	Asn	Tyr	Ala	
				125					130					135	
Ala	Met	Val	Phe	His	Tyr	Met	Ser	Ile	Thr	Ile	Leu	Val	Phe	Phe	
				140					145					150	
Met	Met	Glu	Ile	Ile	Phe	Lys	Leu	Phe	Val	Phe	Arg	Leu	Ser	Ser	
				155					160					165	
Phe	Thr	Thr	Ser	Leu	Arg	Ser	Trp	Met	Pro	Val	Val	Val	Val	Val	
				170					175					180	
Ser	Phe	Ile	Leu	Asp	Ile	Val	Leu	Leu	Phe	Gln	Glu	His	Gln	Phe	
				185					190					195	
Glu	Ala	Leu	Gly	Leu	Leu	Ile	Leu	Leu	Arg	Leu	Trp	Arg	Val	Ala	
				200					205					210	
Arg	Ile	Ile	Asn	Gly	Ile	Ile	Ile	Ser	Val	Lys	Thr	Arg	Ser	Glu	
				215					220					225	
Arg	Gln	Leu	Leu	Arg	Leu	Lys	Gln	Met	Asn	Val	Gln	Leu	Ala	Ala	
				230					235					240	
Lys	Ile	Gln	His	Leu	Glu	Phe	Ser	Cys	Ser	Glu	Lys	Pro	Leu	Asp	
				245					250					255	

<210> 288  
 <211> 3334  
 <212> DNA  
 <213> Homo sapiens

<400> 288  
 cggctcgagc tcgagccgaa tcggctcgag gggcagtgga gcacccagca 50  
 ggccgccaac atgctctgtc tgtgcctgta cgtgccggtc atcggggaag 100  
 cccagaccga gttccagtag tttgagtcga aggggctccc tgccgagctg 150  
 aagtccattt tcaagctcag tgtcttcac cctcccagg aattctccac 200  
 ctaccgccag tggaagcaga aaattgtaca agctggagat aaggaccttg 250  
 atgggcagct agactttgaa gaatttgtcc attatctcca agatcatgag 300  
 aagaagctga ggctggtgtt taagattttg gacaaaaaga atgatggacg 350  
 cattgacgag caggagatca tgcagtccct gcgggacttg ggagtcaaga 400  
 tatctgaaca gcaggcagaa aaaattctca agagcatgga taaaaacggc 450  
 acgatgacca tcgactggaa cgagtggaga gactaccacc tcctccacc 500  
 cgtggaaaac atccccgaga tcatcctcta ctggaagcat tccacgatct 550  
 ttgatgtggg tgagaatcta acggtcccgg atgagttcac agtggaggag 600  
 aggcagacgg ggatgtggtg gagacacctg gtggcaggag gtggggcagg 650  
 ggccgtatcc agaacctgca cggccccctt ggacaggctc aaggtgctca 700  
 tgcagggtcca tgctccccgc agcaacaaca tgggcatcgt tgggtggcttc 750

actcagatga ttcgagaagg agggggccagg tcaactctggc ggggcaatgg 800  
 catcaacgtc ctcaaaaattg cccccgaatc agccatcaaa ttcatggcct 850  
 atgagcagat caagcgcctt gttggtagt accaggagac tctgaggatt 900  
 cacgagaggc ttgtggcagg gtccttggca ggggccatcg cccagagcag 950  
 catctaccca atggaggtcc tgaagacccg gatggcgctg cggaagacag 1000  
 gccagtactc aggaatgctg gactgcgcca ggaggatcct ggccagagag 1050  
 ggggtggccg ccttctacaa aggctatgtc cccaacatgc tgggcatcat 1100  
 cccctatgcc ggcatcgacc ttgcagtcta cgagacgctc aagaatgcct 1150  
 ggctgcagca ctatgcagtg aacagcgcgg accccggcgt gtttgtgctc 1200  
 ctggcctgtg gcaccatgtc cagtacctgt ggccagctgg ccagctaccc 1250  
 cctggcccta gtcaggaccc ggatgcaggc gcaagcctct attgagggcg 1300  
 ctccggaggt gaccatgagc agcctcttca aacatatact gcggaccgag 1350  
 ggggccttcg ggctgtacag ggggctggcc cccaacttca tgaaggatcat 1400  
 cccagctgtg agcatcagct acgtggtcta cgagaacctg aagatcacc 1450  
 tgggcgtgca gtcgcggtga cggggggagg gccgcccggc agtggactcg 1500  
 ctgatcctgg gccgcagcct ggggtgtgca gccatctcat tctgtgaatg 1550  
 tgccaacact aagctgtctc gagccaagct gtgaaaacc tagacgcacc 1600  
 cgcaggagg gtggggagag ctggcaggcc cagggttgt cctgctgacc 1650  
 ccagcagacc ctctgttg ttccagcgaa gaccacagge attccttagg 1700  
 gtccagggtc agcaggctcc gggctcacat gtgtaaggac aggacatttt 1750  
 ctgcagtgcc tgccaatagt gagcttgag cctggaggcc ggcttagttc 1800  
 ttccatttca cccttgagc cagctgttg ccaaggcccc tgccctctgg 1850  
 tctgccgtgc atctccctgt gccctcttgc tgccctgctg tctgctgagg 1900  
 taagggtgga ggagggtac agcccacatc ccacccctc gtccaatccc 1950  
 ataatccatg atgaaagggt aggtcacgtg gcctcccagg cctgacttcc 2000  
 caacctacag cattgacgcc aacttggtg tgaaggaaga ggaaaggatc 2050  
 tggccttgtg gtcactggca tctgagccct gctgatggct ggggctctcg 2100  
 ggcatgcttg ggagtgcagg gggctcgggc tgccctggcct ggctgcacag 2150  
 aaggcaagtg ctggggctca tggtgctctg agctggcctg gaccctgtca 2200  
 ggatgggccc cacctcagaa ccaaaactcac tgtcccact gtggcatgag 2250  
 ggcatggag caccatgttt gagggcgaag ggcagagcgt ttgtgtgttc 2300  
 tggggaggga aggaaaagggt gttggaggcc ttaattatgg actgttggga 2350

aaagggtttt gtccagaagg acaagccgga caaatgagcg acttctgtgc 2400  
 ttccagagga agacgaggga gcaggagctt ggctgactgc tcagagtctg 2450  
 ttctgacgcc ctgggggttc ctgtccaacc ccagcagggg cgcagcggga 2500  
 ccagccccac attccacttg tgtcactgct tggaacctat ttattttgta 2550  
 tttatttgaa cagagttatg tcctaactat ttttatagat ttgtttaatt 2600  
 aatagcttgt cattttcaag ttcatTTTTT attcataatt atgttcatgg 2650  
 ttgattgtac cttcccaagc ccgcccagtg ggatgggagg aggaggagaa 2700  
 ggggggcctt gggccgctgc agtcacatct gtccagagaa attccttttg 2750  
 ggactggagg cagaaaagcg gccagaaggc agcagccctg gtccttttcc 2800  
 tttggcaggt tggggaaggg cttgccccca gccttaggat ttcagggttt 2850  
 gactgggggc gtggagagag agggaggaac ctcaataacc ttgaaggtgg 2900  
 aatccagtta tttcctgcgc tgcgagggtt tttttatttc actcttttct 2950  
 gaatgtcaag gcagtgaggt gcctctcact gtgaatttgt ggtgggcggg 3000  
 ggctggagga gaggtgggg ggctggctcc gtccctccca gccttctgct 3050  
 gcccttgctt aacaatgccg gccaaactggc gacctcacgg ttgcacttcc 3100  
 attccaccag aatgacctga tgaggaaatc ttcaatagga tgcaaagatc 3150  
 aatgcaaaaa ttgttatata tgaacatata actggagtcg tcaaaaagca 3200  
 aattaagaaa gaattggacg ttagaagttg tcatttaaag cagccttcta 3250  
 ataaagttgt ttcaaagctg aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 3300  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa 3334

<210> 289  
 <211> 469  
 <212> PRT  
 <213> Homo sapiens

<400> 289  
 Met Leu Cys Leu Cys Leu Tyr Val Pro Val Ile Gly Glu Ala Gln  
 1 5 10 15  
 Thr Glu Phe Gln Tyr Phe Glu Ser Lys Gly Leu Pro Ala Glu Leu  
 20 25 30  
 Lys Ser Ile Phe Lys Leu Ser Val Phe Ile Pro Ser Gln Glu Phe  
 35 40 45  
 Ser Thr Tyr Arg Gln Trp Lys Gln Lys Ile Val Gln Ala Gly Asp  
 50 55 60  
 Lys Asp Leu Asp Gly Gln Leu Asp Phe Glu Glu Phe Val His Tyr  
 65 70 75  
 Leu Gln Asp His Glu Lys Lys Leu Arg Leu Val Phe Lys Ile Leu  
 80 85 90

Asp	Lys	Lys	Asn	Asp	Gly	Arg	Ile	Asp	Ala	Gln	Glu	Ile	Met	Gln	
				95					100					105	
Ser	Leu	Arg	Asp	Leu	Gly	Val	Lys	Ile	Ser	Glu	Gln	Gln	Ala	Glu	
				110					115					120	
Lys	Ile	Leu	Lys	Ser	Met	Asp	Lys	Asn	Gly	Thr	Met	Thr	Ile	Asp	
				125					130					135	
Trp	Asn	Glu	Trp	Arg	Asp	Tyr	His	Leu	Leu	His	Pro	Val	Glu	Asn	
				140					145					150	
Ile	Pro	Glu	Ile	Ile	Leu	Tyr	Trp	Lys	His	Ser	Thr	Ile	Phe	Asp	
				155					160					165	
Val	Gly	Glu	Asn	Leu	Thr	Val	Pro	Asp	Glu	Phe	Thr	Val	Glu	Glu	
				170					175					180	
Arg	Gln	Thr	Gly	Met	Trp	Trp	Arg	His	Leu	Val	Ala	Gly	Gly	Gly	
				185					190					195	
Ala	Gly	Ala	Val	Ser	Arg	Thr	Cys	Thr	Ala	Pro	Leu	Asp	Arg	Leu	
				200					205					210	
Lys	Val	Leu	Met	Gln	Val	His	Ala	Ser	Arg	Ser	Asn	Asn	Met	Gly	
				215					220					225	
Ile	Val	Gly	Gly	Phe	Thr	Gln	Met	Ile	Arg	Glu	Gly	Gly	Ala	Arg	
				230					235					240	
Ser	Leu	Trp	Arg	Gly	Asn	Gly	Ile	Asn	Val	Leu	Lys	Ile	Ala	Pro	
				245					250					255	
Glu	Ser	Ala	Ile	Lys	Phe	Met	Ala	Tyr	Glu	Gln	Ile	Lys	Arg	Leu	
				260					265					270	
Val	Gly	Ser	Asp	Gln	Glu	Thr	Leu	Arg	Ile	His	Glu	Arg	Leu	Val	
				275					280					285	
Ala	Gly	Ser	Leu	Ala	Gly	Ala	Ile	Ala	Gln	Ser	Ser	Ile	Tyr	Pro	
				290					295					300	
Met	Glu	Val	Leu	Lys	Thr	Arg	Met	Ala	Leu	Arg	Lys	Thr	Gly	Gln	
				305					310					315	
Tyr	Ser	Gly	Met	Leu	Asp	Cys	Ala	Arg	Arg	Ile	Leu	Ala	Arg	Glu	
				320					325					330	
Gly	Val	Ala	Ala	Phe	Tyr	Lys	Gly	Tyr	Val	Pro	Asn	Met	Leu	Gly	
				335					340					345	
Ile	Ile	Pro	Tyr	Ala	Gly	Ile	Asp	Leu	Ala	Val	Tyr	Glu	Thr	Leu	
				350					355					360	
Lys	Asn	Ala	Trp	Leu	Gln	His	Tyr	Ala	Val	Asn	Ser	Ala	Asp	Pro	
				365					370					375	
Gly	Val	Phe	Val	Leu	Leu	Ala	Cys	Gly	Thr	Met	Ser	Ser	Thr	Cys	
				380					385					390	
Gly	Gln	Leu	Ala	Ser	Tyr	Pro	Leu	Ala	Leu	Val	Arg	Thr	Arg	Met	
				395					400					405	

Gln	Ala	Gln	Ala	Ser	Ile	Glu	Gly	Ala	Pro	Glu	Val	Thr	Met	Ser
				410					415					420
Ser	Leu	Phe	Lys	His	Ile	Leu	Arg	Thr	Glu	Gly	Ala	Phe	Gly	Leu
				425					430					435
Tyr	Arg	Gly	Leu	Ala	Pro	Asn	Phe	Met	Lys	Val	Ile	Pro	Ala	Val
				440					445					450
Ser	Ile	Ser	Tyr	Val	Val	Tyr	Glu	Asn	Leu	Lys	Ile	Thr	Leu	Gly
				455					460					465

Val Gln Ser Arg

<210> 290  
 <211> 1658  
 <212> DNA  
 <213> Homo sapiens

<400> 290  
 ggaaggcagc ggcagctcca ctccagccagt acccagatac gctgggaacc 50  
 ttccccagcc atggcttccc tggggcagat cctcttcttg agcataatta 100  
 gcatcatcat tattctggct ggagcaattg cactcatcat tggttttgg 150  
 atttcaggga gacactccat cacagtcact actgtcgct cagctgggaa 200  
 cattggggag gatggaatcc tgagctgcac ttttgaacct gacatcaaac 250  
 tttctgatat cgtgatacaa tggctgaagg aaggtgtttt aggtttggtc 300  
 catgagttca aagaaggcaa agatgagctg tcggagcagg atgaaatgtt 350  
 cagaggcccg acagcagtgt ttgctgatca agtgatagtt ggcaatgcct 400  
 ctttgccgct gaaaaacgtg caactcacag atgctggcac ctacaaatgt 450  
 tatatcatca cttctaaagg caaggggaat gctaaccctg agtataaaac 500  
 tggagccttc agcatgccg aagtgaatgt ggactataat gccagctcag 550  
 agaccttgcg gtgtgaggct ccccgatggt tccccagcc cacagtggtc 600  
 tgggcatccc aagttgacca gggagccaac ttctcggaag tctccaatac 650  
 cagctttgag ctgaactctg agaatgtgac catgaagggt gtgtctgtgc 700  
 tctacaatgt tacgatcaac aacacatact cctgtatgat tgaaaatgac 750  
 attgccaaag caacagggga tatcaaagt acagaatogg agatcaaaag 800  
 gcggagtcac ctacagctgc taaactcaaa ggcttctctg tgtgtctctt 850  
 ctttctttgc catcagctgg gcaattctgc ctctcagccc ttacctgatg 900  
 ctaaaataat gtgccttggc cacaataaag catgcaaagt cattgttaca 950  
 acagggatct acagaactat ttcaccacca gatatgacct agttttatat 1000  
 ttctgggagg aaatgaattc atatctagaa gtctggagt agcaaacaag 1050

agcaagaaac aaaaagaagc caaaagcaga aggtccaat atgaacaaga 1100  
 taaatctatc ttcaaagaca tattagaagt tgggaaaata attcatgtga 1150  
 actagacaag tgtgttaaga gtgataagta aaatgcacgt ggagacaagt 1200  
 gcatccccag atctcaggga cctccccctg cctgtcacct ggggagtga 1250  
 aggacaggat agtgcattgt ctttgtctct gaatttttag ttatatgtgc 1300  
 tgtaatgttg ctctgaggaa gcccttgaa agtctatccc aacatatcca 1350  
 catcttatat tccacaaatt aagctgtagt atgtacccta agacgtgct 1400  
 aattgactgc cacttcgcaa ctgagggcg gctgcatttt agtaatgggt 1450  
 caaatgattc actttttatg atgcttccaa aggtgccttg gcttctcttc 1500  
 ccaactgaca aatgccaaag ttgagaaaaa tgatcataat tttagcataa 1550  
 acagagcagt cggggacacc gattttataa ataaactgag caccttcttt 1600  
 tttaacaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1650  
 aaaaaaaaa 1658

<210> 291  
 <211> 282  
 <212> PRT  
 <213> Homo sapiens

<400> 291  
 Met Ala Ser Leu Gly Gln Ile Leu Phe Trp Ser Ile Ile Ser Ile  
 1 5 10 15  
 Ile Ile Ile Leu Ala Gly Ala Ile Ala Leu Ile Ile Gly Phe Gly  
 20 25 30  
 Ile Ser Gly Arg His Ser Ile Thr Val Thr Thr Val Ala Ser Ala  
 35 40 45  
 Gly Asn Ile Gly Glu Asp Gly Ile Leu Ser Cys Thr Phe Glu Pro  
 50 55 60  
 Asp Ile Lys Leu Ser Asp Ile Val Ile Gln Trp Leu Lys Glu Gly  
 65 70 75  
 Val Leu Gly Leu Val His Glu Phe Lys Glu Gly Lys Asp Glu Leu  
 80 85 90  
 Ser Glu Gln Asp Glu Met Phe Arg Gly Arg Thr Ala Val Phe Ala  
 95 100 105  
 Asp Gln Val Ile Val Gly Asn Ala Ser Leu Arg Leu Lys Asn Val  
 110 115 120  
 Gln Leu Thr Asp Ala Gly Thr Tyr Lys Cys Tyr Ile Ile Thr Ser  
 125 130 135  
 Lys Gly Lys Gly Asn Ala Asn Leu Glu Tyr Lys Thr Gly Ala Phe  
 140 145 150  
 Ser Met Pro Glu Val Asn Val Asp Tyr Asn Ala Ser Ser Glu Thr



	155		160		165
Leu Arg Cys Glu	Ala Pro Arg Trp Phe	Pro Gln Pro Thr Val	Val		
	170	175	180		
Trp Ala Ser Gln	Val Asp Gln Gly Ala	Asn Phe Ser Glu Val	Ser		
	185	190	195		
Asn Thr Ser Phe	Glu Leu Asn Ser Glu	Asn Val Thr Met Lys	Val		
	200	205	210		
Val Ser Val Leu	Tyr Asn Val Thr Ile	Asn Asn Thr Tyr Ser	Cys		
	215	220	225		
Met Ile Glu Asn	Asp Ile Ala Lys Ala	Thr Gly Asp Ile Lys	Val		
	230	235	240		
Thr Glu Ser Glu	Ile Lys Arg Arg Ser	His Leu Gln Leu Leu	Asn		
	245	250	255		
Ser Lys Ala Ser	Leu Cys Val Ser Ser	Phe Phe Ala Ile Ser	Trp		
	260	265	270		
Ala Leu Leu Pro	Leu Ser Pro Tyr Leu	Met Leu Lys			
	275	280			

<210> 292  
 <211> 1484  
 <212> DNA  
 <213> Homo sapiens

<400> 292  
 gaatttgtag aagacagcgg cgttgccatg gcggcgctctc tggggcaggt 50  
 gttggctctg gtgctggtgg ccgctctgtg ggggtggcacg cagccgctgc 100  
 tgaagcgggc ctccgccggc ctgcagcggg ttcattgagcc gacctgggccc 150  
 cagcagttgc tacaggagat gaagaccctc ttcttgaata ctgagtacct 200  
 gatgcccttt ctctcaacc agtgtggatc ccttctctat tacctcacct 250  
 tggcatcgac agatctgacc ctggctgtgc ccatctgtaa ctctctggct 300  
 atcatcttca cactgattgt tgggaaggcc cttggagaag atattggtgg 350  
 aaaacgtaag ttagactact gcgagtgcgg gacgcagctc tgtggatctc 400  
 gacataacctg tgtagttcc ttcccagaac ccatctcccc agagtgggtg 450  
 aggacacggc cttttcccat cctgcccttt cctctgcagc tgttttgctt 500  
 ccttgtggcc atcagagttc ccttcccctg gacagtctgg agaaagacag 550  
 aggctggggg ttgggattga agaccagacc ccatctgagc ccttctcca 600  
 gccctgtacc agctcctact ggcatggctg agctcagacc ctctgattt 650  
 ctgcctatta tcccaggagc agttgctggc atggtgctca ccgtgatagg 700  
 aatttcactc tgcatacaaa gctcagttag taagaccagc gggcaacagt 750  
 ctaccctttg agtgggcca acccacttcc agctctgctg cctccaggaa 800

gccctgggc catgaagtgc tggcagtgag cggatggacc tagcacttcc 850  
 cctctctggc cttagcttcc tcctctctta tggggataac agctacctca 900  
 tggatcacaa taagagaaca agagtgaag agttttgtaa ctttcaagtg 950  
 ctgttcagct gcggggattt agcacaggag actotacgct caccctcagc 1000  
 aacctttctg cccagcagc tctcttcctg ctaacatctc aggctcccag 1050  
 cccagccacc attactgtgg cctgatctgg actatcatgg tggcaggttc 1100  
 catggactgc agaactccag ctgcatggaa agggccagct gcagactttg 1150  
 agccagaaat gcaaacggga ggcctctggg actcagtcag agcgcttttg 1200  
 ctgaatgagg ggtggaaccg agggaagaag gtgcgtcggg gtggcagatg 1250  
 caggaaatga gctgtctatt agccttgcct gccccacca tgaggtaggc 1300  
 agaaatcctc actgccagcc cctcttaaac aggtagagag ctgtgagccc 1350  
 cagccccacc tgactccagc acacctggcg agtagtagct gtcaataaat 1400  
 ctatgtaaac agacaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1450  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa 1484

<210> 293  
 <211> 180  
 <212> PRT  
 <213> Homo sapiens

<400> 293  
 Met Ala Ala Ser Leu Gly Gln Val Leu Ala Leu Val Leu Val Ala  
 1 5 10 15  
 Ala Leu Trp Gly Gly Thr Gln Pro Leu Leu Lys Arg Ala Ser Ala  
 20 25 30  
 Gly Leu Gln Arg Val His Glu Pro Thr Trp Ala Gln Gln Leu Leu  
 35 40 45  
 Gln Glu Met Lys Thr Leu Phe Leu Asn Thr Glu Tyr Leu Met Pro  
 50 55 60  
 Phe Leu Leu Asn Gln Cys Gly Ser Leu Leu Tyr Tyr Leu Thr Leu  
 65 70 75  
 Ala Ser Thr Asp Leu Thr Leu Ala Val Pro Ile Cys Asn Ser Leu  
 80 85 90  
 Ala Ile Ile Phe Thr Leu Ile Val Gly Lys Ala Leu Gly Glu Asp  
 95 100 105  
 Ile Gly Gly Lys Arg Lys Leu Asp Tyr Cys Glu Cys Gly Thr Gln  
 110 115 120  
 Leu Cys Gly Ser Arg His Thr Cys Val Ser Ser Phe Pro Glu Pro  
 125 130 135  
 Ile Ser Pro Glu Trp Val Arg Thr Arg Pro Phe Pro Ile Leu Pro  
 140 145 150

Phe	Pro	Leu	Gln	Leu	Phe	Cys	Phe	Leu	Val	Ala	Ile	Arg	Val	Pro
				155					160					165
Phe	Pro	Trp	Thr	Val	Trp	Arg	Lys	Thr	Glu	Ala	Gly	Val	Trp	Asp
				170					175					180

<210> 294  
 <211> 1164  
 <212> DNA  
 <213> Homo sapiens

<400> 294  
 cttctgtagg acagtcacca ggccagatcc agaagcctct ctaggctcca 50  
 gcttttctctg tggaagatga cagcaattat agcaggaccc tgccaggctg 100  
 tcgaaaagat tccgcaataa aactttgcca gtgggaagta cctagtgaaa 150  
 cggcctaaga tgccacttct tctcatgtcc caggcttgag gccctgtggt 200  
 ccccatcctt gggagaagtc agctccagca ccatgaaggc catcctcggt 250  
 gctggtatca ctgcagtgtc tgttgacagt gtagaatctc tgagctgcgt 300  
 gcagtgtaat tcatgggaaa aatcctgtgt caacagcatt gcctctgaat 350  
 gtccctcaca tgccaacacc agctgtatca gtcctcagc cagctcctct 400  
 ctagagacac cagtcagatt ataccagaat atgttctgct cagcggagaa 450  
 ctgcagtgtg gagacacaca ttacagcctt cactgtccac gtgtctgctg 500  
 aagaacactt tcattttgta agccagtgtc gccaaggaaa ggaatgcagc 550  
 aacaccagcg atgccctgga cctccctctg aagaacgtgt ccagcaacgc 600  
 agagtgcctt gcttggttatg aatctaattg aacttcctgt cgtgggaagc 650  
 cctggaaatg ctatgaagaa gaacagtgtg tctttctagt tgcagaactt 700  
 aagaatgaca ttgagtctaa gagtctctgt ctgaaaggct gttccaacgt 750  
 cagtaacgcc acctgtcagt tcctgtctgg tgaaaacaag actcttgag 800  
 gagtcatctt tcgaaagttt gagtgtgcaa atgtaaacag cttaaccccc 850  
 acgtctgcac caaccacttc ccacaacgtg ggctccaaag cttccctcta 900  
 cctcttggcc cttgccagcc tccttcttcg gggactgctg ccctgaggtc 950  
 ctggggctgc actttgcccc gcacccatt tctgcttctc tgagggtccag 1000  
 agcaccacct gcggtgtgta caccctcttt ccctgctctg ccccgtttaa 1050  
 ctgcccagta agtgggagtc acaggtctcc aggcaatgcc gacagctgcc 1100  
 ttgttcttca ttattaaagc actggttcat tcaactgcaa aaaaaaaaaa 1150  
 aaaaaaaaaa aaaa 1164

<210> 295  
 <211> 237  
 <212> PRT

<213> Homo sapiens

<400> 295

Met	Lys	Gly	Ile	Leu	Val	Ala	Gly	Ile	Thr	Ala	Val	Leu	Val	Ala	
1				5					10					15	
Ala	Val	Glu	Ser	Leu	Ser	Cys	Val	Gln	Cys	Asn	Ser	Trp	Glu	Lys	
				20					25					30	
Ser	Cys	Val	Asn	Ser	Ile	Ala	Ser	Glu	Cys	Pro	Ser	His	Ala	Asn	
				35					40					45	
Thr	Ser	Cys	Ile	Ser	Ser	Ser	Ala	Ser	Ser	Ser	Leu	Glu	Thr	Pro	
				50					55					60	
Val	Arg	Leu	Tyr	Gln	Asn	Met	Phe	Cys	Ser	Ala	Glu	Asn	Cys	Ser	
				65					70					75	
Glu	Glu	Thr	His	Ile	Thr	Ala	Phe	Thr	Val	His	Val	Ser	Ala	Glu	
				80					85					90	
Glu	His	Phe	His	Phe	Val	Ser	Gln	Cys	Cys	Gln	Gly	Lys	Glu	Cys	
				95					100					105	
Ser	Asn	Thr	Ser	Asp	Ala	Leu	Asp	Pro	Pro	Leu	Lys	Asn	Val	Ser	
				110					115					120	
Ser	Asn	Ala	Glu	Cys	Pro	Ala	Cys	Tyr	Glu	Ser	Asn	Gly	Thr	Ser	
				125					130					135	
Cys	Arg	Gly	Lys	Pro	Trp	Lys	Cys	Tyr	Glu	Glu	Glu	Gln	Cys	Val	
				140					145					150	
Phe	Leu	Val	Ala	Glu	Leu	Lys	Asn	Asp	Ile	Glu	Ser	Lys	Ser	Leu	
				155					160					165	
Val	Leu	Lys	Gly	Cys	Ser	Asn	Val	Ser	Asn	Ala	Thr	Cys	Gln	Phe	
				170					175					180	
Leu	Ser	Gly	Glu	Asn	Lys	Thr	Leu	Gly	Gly	Val	Ile	Phe	Arg	Lys	
				185					190					195	
Phe	Glu	Cys	Ala	Asn	Val	Asn	Ser	Leu	Thr	Pro	Thr	Ser	Ala	Pro	
				200					205					210	
Thr	Thr	Ser	His	Asn	Val	Gly	Ser	Lys	Ala	Ser	Leu	Tyr	Leu	Leu	
				215					220					225	
Ala	Leu	Ala	Ser	Leu	Leu	Leu	Arg	Gly	Leu	Leu	Pro				
				230					235						

<210> 296

<211> 1245

<212> DNA

<213> Homo sapiens

<400> 296

ggcctcgggtt caaacgaccc ggtgggtcta cagcggaagg gagggagcga 50  
aggtaggagg cagggcttgc ctactggcc accctcccaa cccaagagc 100  
ccagcccat ggtccccgcc gccggcgcg tgctgtgggt cctgctgctg 150

aatctgggtc cccgggcggc gggggcccaa ggcctgacct agactccgac 200  
cgaaatgcag cgggtcagtt tacgctttgg gggcccatg acccgagct 250  
accggagcac cgcccgact ggttttccc ggaagacaag gataatccta 300  
gaggacgaga atgatgccat ggccgacgcc gaccgcctgg ctggaccagc 350  
ggctgccgag ctcttgccg ccacgggtgc caccggcttt agccgggtcgt 400  
ccgccattaa cgaggaggat gggttttcag aagaggggggt tgtgattaat 450  
gccggaaagg atagcaccag cagagagctt cccagtgcga ctccaatac 500  
agcggggagt tccagcacga ggtttatagc caatagtcag gagcctgaaa 550  
tcaggctgac ttcaagcctg ccgcgctccc ccgggagggt tactgaggac 600  
ctgccaggct cgcaggccac cctgagccag tgggtccacac ctgggtctac 650  
cccgagccgg tggccgtcac cctcaccac agccatgcc tctcctgagg 700  
atctgcccgt ggtgctgatg ccctggggcc cgtggcactg ccaactgcaag 750  
tcgggcacca tgagccggag ccggtctggg aagctgcacg gcctttccgg 800  
gcgccttcga gttggggcgc tgagccagct ccgcacggag cacaagcctt 850  
gcacctatca acaatgtccc tgcaaccgac ttcggaaga gtgccccctg 900  
gacacaagtc tctgtactga caccaactgt gcctctcaga gcaccaccag 950  
taccaggacc accactaccc ccttccccac catccacctc agaagcagtc 1000  
ccagcctgcc acccgccagc cctgcccag ccctggcttt ttggaaacgg 1050  
gtcaggattg gcctggagga tatttggaat agcctctctt cagtgttcac 1100  
agagatgcaa ccaatagaca gaaaccagag gtaatggcca ctccatccac 1150  
atgaggagat gtcagtatct caacctctct tgcctttca atcctagcac 1200  
ccactagata tttttagtac agaaaaacaa aactggaaaa caca 1245

<210> 297  
<211> 341  
<212> PRT  
<213> Homo sapiens

<400> 297  
Met Val Pro Ala Ala Gly Ala Leu Leu Trp Val Leu Leu Leu Asn  
1 5 10 15  
Leu Gly Pro Arg Ala Ala Gly Ala Gln Gly Leu Thr Gln Thr Pro  
20 25 30  
Thr Glu Met Gln Arg Val Ser Leu Arg Phe Gly Gly Pro Met Thr  
35 40 45  
Arg Ser Tyr Arg Ser Thr Ala Arg Thr Gly Leu Pro Arg Lys Thr  
50 55 60  
Arg Ile Ile Leu Glu Asp Glu Asn Asp Ala Met Ala Asp Ala Asp

65										70					75				
Arg	Leu	Ala	Gly	Pro	Ala	Ala	Ala	Glu	Leu	Leu	Ala	Ala	Thr	Val					
				80					85					90					
Ser	Thr	Gly	Phe	Ser	Arg	Ser	Ser	Ala	Ile	Asn	Glu	Glu	Asp	Gly					
				95					100					105					
Ser	Ser	Glu	Glu	Gly	Val	Val	Ile	Asn	Ala	Gly	Lys	Asp	Ser	Thr					
				110					115					120					
Ser	Arg	Glu	Leu	Pro	Ser	Ala	Thr	Pro	Asn	Thr	Ala	Gly	Ser	Ser					
				125					130					135					
Ser	Thr	Arg	Phe	Ile	Ala	Asn	Ser	Gln	Glu	Pro	Glu	Ile	Arg	Leu					
				140					145					150					
Thr	Ser	Ser	Leu	Pro	Arg	Ser	Pro	Gly	Arg	Ser	Thr	Glu	Asp	Leu					
				155					160					165					
Pro	Gly	Ser	Gln	Ala	Thr	Leu	Ser	Gln	Trp	Ser	Thr	Pro	Gly	Ser					
				170					175					180					
Thr	Pro	Ser	Arg	Trp	Pro	Ser	Pro	Ser	Pro	Thr	Ala	Met	Pro	Ser					
				185					190					195					
Pro	Glu	Asp	Leu	Arg	Leu	Val	Leu	Met	Pro	Trp	Gly	Pro	Trp	His					
				200					205					210					
Cys	His	Cys	Lys	Ser	Gly	Thr	Met	Ser	Arg	Ser	Arg	Ser	Gly	Lys					
				215					220					225					
Leu	His	Gly	Leu	Ser	Gly	Arg	Leu	Arg	Val	Gly	Ala	Leu	Ser	Gln					
				230					235					240					
Leu	Arg	Thr	Glu	His	Lys	Pro	Cys	Thr	Tyr	Gln	Gln	Cys	Pro	Cys					
				245					250					255					
Asn	Arg	Leu	Arg	Glu	Glu	Cys	Pro	Leu	Asp	Thr	Ser	Leu	Cys	Thr					
				260					265					270					
Asp	Thr	Asn	Cys	Ala	Ser	Gln	Ser	Thr	Thr	Ser	Thr	Arg	Thr	Thr					
				275					280					285					
Thr	Thr	Pro	Phe	Pro	Thr	Ile	His	Leu	Arg	Ser	Ser	Pro	Ser	Leu					
				290					295					300					
Pro	Pro	Ala	Ser	Pro	Cys	Pro	Ala	Leu	Ala	Phe	Trp	Lys	Arg	Val					
				305					310					315					
Arg	Ile	Gly	Leu	Glu	Asp	Ile	Trp	Asn	Ser	Leu	Ser	Ser	Val	Phe					
				320					325					330					
Thr	Glu	Met	Gln	Pro	Ile	Asp	Arg	Asn	Gln	Arg									
				335					340										

<210> 298  
 <211> 2692  
 <212> DNA  
 <213> Homo sapiens

<400> 298  
 cccgggtcga cccacgcgtc cggggagaaa ggatggccgg cctggcggcg 50

cggttggtcc tgctagctgg ggcagcggcg ctggcgagcg gctcccaggg 100  
 cgaccgtgag ccggtgtacc gcgactgctg actgcagtgc gaagagcaga 150  
 actgctctgg gggcgctctg aatcacttcc gctcccgccca gccaatctac 200  
 atgagtctag caggctggac ctgtcgggac gactgtaagt atgagtgtat 250  
 gtgggtcacc gttgggctct acctccagga aggtcacaaa gtgcctcagt 300  
 tccatggcaa gtggcccttc tcccggttcc tgttctttca agagccggca 350  
 tcggccgtgg cctcgtttct caatggcctg gccagcctgg tgatgctctg 400  
 ccgctaccgc accttcgtgc cagcctcctc ccccatgtac cacacctgtg 450  
 tggccttcgc ctgggtgtcc ctcaatgcat ggttctggtc cacagtcttc 500  
 cacaccaggg aactgacct cacagagaaa atggactact tctgtgcctc 550  
 cactgtcatc ctacactcaa tctacctgtg ctgcgtcagg accgtggggc 600  
 tgcagcacc agctgtggtc agtgccttcc gggctctcct gctgctcatg 650  
 ctgaccgtgc acgtctccta cctgagcctc atccgcttcg actatggcta 700  
 caacctggtg gccaacgtgg ctattggcct ggtcaacgtg gtgtggtggc 750  
 tggcctggtg cctgtggaac cagcggcggc tgcctcaagt gcgcaagtgc 800  
 gtggtggtgg tcttgctgct gcaggggctg tccctgctcg agctgcttga 850  
 ctcccaccg ctcttctggg tcctggatgc ccatgccatc tggcacatca 900  
 gcaccatccc tgtccacgtc ctctttttca gctttctgga agatgacagc 950  
 ctgtacctgc tgaaggaatc agaggacaag ttcaagctgg actgaagacc 1000  
 ttggagcgag tctgccccag tggggatcct gcccccgccc tgctggcctc 1050  
 ccttctcccc tcaacccttg agatgatttt ctcttttcaa cttcttgaac 1100  
 ttggacatga aggatgtggg ccagaaatca tgtggccagc ccacccctg 1150  
 ttggccctca ccagccttg agtctgttct agggaaggcc tcccagcatc 1200  
 tgggactcga gagtgggcag cccctctacc tcctggagct gaactggggt 1250  
 ggaactgagt gtgttcttag ctctaccggg aggacagctg cctgtttcct 1300  
 ccccaccagc ctctcccca catcccagc tgcctggtg ggtcctgaag 1350  
 ccctctgtct acctgggaga ccagggacca caggccttag ggatacaggg 1400  
 ggtccccttc tgttaccacc ccccaccctc ctccaggaca ccaactaggtg 1450  
 gtgctggatg cttgttcttt ggccagccaa ggttcacggc gattctcccc 1500  
 atgggatctt gagggaccaa gctgctggga ttgggaagga gtttcaacct 1550  
 gaccgttgcc ctagccaggt tcccaggagg cctcaccata ctccccttca 1600  
 gggccagggc tccagcaagc ccagggcaag gatcctgtgc tgctgtctgg 1650

ttgagagcct gccaccgtgt gtcgggagtg tgggccaggc tgagtgcata 1700  
 ggtgacaggg ccgtgagcat gggcctgggt gtgtgtgagc tcaggcctag 1750  
 gtgcgcagtg tggagacggg tgttgctcggg gaagaggtgt ggcttcaaag 1800  
 tgtgtgtgtg caggggggtg gtgtgttagc gtgggttagg ggaacgtgtg 1850  
 tgcgcgtgct ggtgggcatg tgagatgagt gactgccggg gaatgtgtcc 1900  
 acagttgaga ggttgaggca ggatgaggga atcctgtcac catcaataat 1950  
 cacttggtga gcgccagctc tgcccaagac gccacctggg cggacagcca 2000  
 ggagctctcc atggccaggc tgctgtgtg catgttcctt gtctgggtgcc 2050  
 cctttgcccg cctcctgcaa acctcacagg gtccccacac aacagtgcc 2100  
 tccagaagca gcccctcgga ggcagaggaa ggaaaatggg gatggctggg 2150  
 gctctctcca tctcctttt ctcttgcct tcgcatggct ggccttcccc 2200  
 tccaaaacct ccattccctt gctgccagcc cctttgccat agcctgattt 2250  
 tggggaggag gaaggggcga tttgaggag aaggggagaa agcttatggc 2300  
 tgggtctggt ttcttccctt ccagagggt cttactgttc cagggtgcc 2350  
 ccagggcagg caggggccac actatgcctg tgccctggtg aaggtgaccc 2400  
 ctgccattta ccagcagccc tggcatgttc ctgccccaca ggaatagaat 2450  
 ggaggagct ccagaaactt tccatcccaa aggcagtctc cgtggttgaa 2500  
 gcagactgga tttttgctct gcccctgacc ccttgctcct ctttgaggga 2550  
 ggggagctat gctaggactc caacctcagg gactcgggtg gcctgcgcta 2600  
 gcttcttttg atactgaaaa cttttaaggt gggagggtgg caagggatgt 2650  
 gcttaataaa tcaattccaa gcctcaaaaa aaaaaaaaaa aa 2692

<210> 299  
 <211> 320  
 <212> PRT  
 <213> Homo sapiens

<400> 299  
 Met Ala Gly Leu Ala Ala Arg Leu Val Leu Leu Ala Gly Ala Ala  
 1 5 10 15  
 Ala Leu Ala Ser Gly Ser Gln Gly Asp Arg Glu Pro Val Tyr Arg  
 20 25 30  
 Asp Cys Val Leu Gln Cys Glu Glu Gln Asn Cys Ser Gly Gly Ala  
 35 40 45  
 Leu Asn His Phe Arg Ser Arg Gln Pro Ile Tyr Met Ser Leu Ala  
 50 55 60  
 Gly Trp Thr Cys Arg Asp Asp Cys Lys Tyr Glu Cys Met Trp Val  
 65 70 75



Thr	Val	Gly	Leu	Tyr	Leu	Gln	Glu	Gly	His	Lys	Val	Pro	Gln	Phe	
				80					85					90	
His	Gly	Lys	Trp	Pro	Phe	Ser	Arg	Phe	Leu	Phe	Phe	Gln	Glu	Pro	
				95					100					105	
Ala	Ser	Ala	Val	Ala	Ser	Phe	Leu	Asn	Gly	Leu	Ala	Ser	Leu	Val	
				110					115					120	
Met	Leu	Cys	Arg	Tyr	Arg	Thr	Phe	Val	Pro	Ala	Ser	Ser	Pro	Met	
				125					130					135	
Tyr	His	Thr	Cys	Val	Ala	Phe	Ala	Trp	Val	Ser	Leu	Asn	Ala	Trp	
				140					145					150	
Phe	Trp	Ser	Thr	Val	Phe	His	Thr	Arg	Asp	Thr	Asp	Leu	Thr	Glu	
				155					160					165	
Lys	Met	Asp	Tyr	Phe	Cys	Ala	Ser	Thr	Val	Ile	Leu	His	Ser	Ile	
				170					175					180	
Tyr	Leu	Cys	Cys	Val	Arg	Thr	Val	Gly	Leu	Gln	His	Pro	Ala	Val	
				185					190					195	
Val	Ser	Ala	Phe	Arg	Ala	Leu	Leu	Leu	Leu	Met	Leu	Thr	Val	His	
				200					205					210	
Val	Ser	Tyr	Leu	Ser	Leu	Ile	Arg	Phe	Asp	Tyr	Gly	Tyr	Asn	Leu	
				215					220					225	
Val	Ala	Asn	Val	Ala	Ile	Gly	Leu	Val	Asn	Val	Val	Trp	Trp	Leu	
				230					235					240	
Ala	Trp	Cys	Leu	Trp	Asn	Gln	Arg	Arg	Leu	Pro	His	Val	Arg	Lys	
				245					250					255	
Cys	Val	Val	Val	Val	Leu	Leu	Leu	Gln	Gly	Leu	Ser	Leu	Leu	Glu	
				260					265					270	
Leu	Leu	Asp	Phe	Pro	Pro	Leu	Phe	Trp	Val	Leu	Asp	Ala	His	Ala	
				275					280					285	
Ile	Trp	His	Ile	Ser	Thr	Ile	Pro	Val	His	Val	Leu	Phe	Phe	Ser	
				290					295					300	
Phe	Leu	Glu	Asp	Asp	Ser	Leu	Tyr	Leu	Leu	Lys	Glu	Ser	Glu	Asp	
				305					310					315	
Lys	Phe	Lys	Leu	Asp											
				320											

<210> 300  
 <211> 1674  
 <212> DNA  
 <213> Homo sapiens

<400> 300  
 ggccgcctgg aattgtggga gttgtgtctg ccaactcggct gccggaggcc 50  
 gaaggctccgt gactatggct cccagagacc tgccttcac taggatggct 100  
 cctctgggca tgctgcttgg gctgctgatg gccgcctgct tcaccttctg 150

cctcagtcac cagaacctga aggagtttgc cctgaccaac ccagagaaga 200  
gcagcaccaa agaaacggag agaaaagaaa ccaaagccga ggaggagctg 250  
gatgccgaag tcctggaggt gttccacccg acgcatgagt ggcagggcct 300  
tcagccaggg caggctgtcc ctgcaggatc ccacgtacgg ctgaatcttc 350  
agactgggga aagagaggca aaactccaat atgaggacaa gttccgaaat 400  
aatttgaaag gcaaaaggct ggatatcaac accaacacct acacatctca 450  
ggatctcaag agtgcactgg caaaattcaa ggagggggca gagatggaga 500  
gttcaaagga agacaaggca aggcaggctg aggtaaagcg gctcttccgc 550  
cccattgagg aactgaagaa agactttgat gagctgaatg ttgtcattga 600  
gactgacatg cagatcatgg tacggctgat caacaagtgc aatagttcca 650  
gctccagttt ggaagagaag attgctgctc tctttgatct tgaatattat 700  
gtccatcaga tggacaatgc gcaggacctg ctttcctttg gtgggtcttca 750  
agtggctgatc aatgggctga acagcacaga gcccctcgtg aaggagtatg 800  
ctgcgtttgt gctgggctgt gccttttcca gcaaccccaa ggtccaggctg 850  
gaggccatcg aagggggagc cctgcagaag ctgctggtca tcctggccac 900  
ggagcagccg ctactgcaa agaagaaggc cctgtttgca ctgtgctccc 950  
tgctgcgcca cttcccctat gccagcggc agttcctgaa gctcgggggg 1000  
ctgcaggctc tgaggacct ggtgcaggag aagggcacgg aggtgctcgc 1050  
cgtgcgcgtg gtcacactgc tctacgacct ggtcacggag aagatgttcg 1100  
ccgaggagga ggctgagctg acccaggaga tgtccccaga gaagctgcag 1150  
cagtatcgcc aggtacacct cctgccaggc ctgtgggaac agggctgggtg 1200  
cgagatcacg gccacctcc tggcgtgcc cgagcatgat gcccgtaga 1250  
aggtgctgca gacactgggc gtccctctga ccacctgcg ggaccgctac 1300  
cgtcaggacc ccagctcgg caggacactg gccagcctgc aggtgagta 1350  
ccaggtgctg gccagcctgg agctgcagga tggtaggagc gagggtact 1400  
tccaggagct gctgggctct gtcaacagct tgctgaagga gctgagatga 1450  
ggccccacac caggactgga ctgggatgcc gctagtgagg ctgaggggtg 1500  
ccagcgtggg tgggtctctc aggcaggagg acatcttggc agtgctggct 1550  
tggccattaa atggaaacct gaaggccaaa aaaaaaaaaa aaaaaaaaaa 1600  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1650  
aaaaaaaaaa aaaaaaaaaa aaaa 1674

<210> 301

<211> 461  
 <212> PRT  
 <213> Homo sapiens

<400> 301

Met	Ala	Pro	Gln	Ser	Leu	Pro	Ser	Ser	Arg	Met	Ala	Pro	Leu	Gly	1	5	10	15
Met	Leu	Leu	Gly	Leu	Leu	Met	Ala	Ala	Cys	Phe	Thr	Phe	Cys	Leu	20	25	30	
Ser	His	Gln	Asn	Leu	Lys	Glu	Phe	Ala	Leu	Thr	Asn	Pro	Glu	Lys	35	40	45	
Ser	Ser	Thr	Lys	Glu	Thr	Glu	Arg	Lys	Glu	Thr	Lys	Ala	Glu	Glu	50	55	60	
Glu	Leu	Asp	Ala	Glu	Val	Leu	Glu	Val	Phe	His	Pro	Thr	His	Glu	65	70	75	
Trp	Gln	Ala	Leu	Gln	Pro	Gly	Gln	Ala	Val	Pro	Ala	Gly	Ser	His	80	85	90	
Val	Arg	Leu	Asn	Leu	Gln	Thr	Gly	Glu	Arg	Glu	Ala	Lys	Leu	Gln	95	100	105	
Tyr	Glu	Asp	Lys	Phe	Arg	Asn	Asn	Leu	Lys	Gly	Lys	Arg	Leu	Asp	110	115	120	
Ile	Asn	Thr	Asn	Thr	Tyr	Thr	Ser	Gln	Asp	Leu	Lys	Ser	Ala	Leu	125	130	135	
Ala	Lys	Phe	Lys	Glu	Gly	Ala	Glu	Met	Glu	Ser	Ser	Lys	Glu	Asp	140	145	150	
Lys	Ala	Arg	Gln	Ala	Glu	Val	Lys	Arg	Leu	Phe	Arg	Pro	Ile	Glu	155	160	165	
Glu	Leu	Lys	Lys	Asp	Phe	Asp	Glu	Leu	Asn	Val	Val	Ile	Glu	Thr	170	175	180	
Asp	Met	Gln	Ile	Met	Val	Arg	Leu	Ile	Asn	Lys	Phe	Asn	Ser	Ser	185	190	195	
Ser	Ser	Ser	Leu	Glu	Glu	Lys	Ile	Ala	Ala	Leu	Phe	Asp	Leu	Glu	200	205	210	
Tyr	Tyr	Val	His	Gln	Met	Asp	Asn	Ala	Gln	Asp	Leu	Leu	Ser	Phe	215	220	225	
Gly	Gly	Leu	Gln	Val	Val	Ile	Asn	Gly	Leu	Asn	Ser	Thr	Glu	Pro	230	235	240	
Leu	Val	Lys	Glu	Tyr	Ala	Ala	Phe	Val	Leu	Gly	Ala	Ala	Phe	Ser	245	250	255	
Ser	Asn	Pro	Lys	Val	Gln	Val	Glu	Ala	Ile	Glu	Gly	Gly	Ala	Leu	260	265	270	
Gln	Lys	Leu	Leu	Val	Ile	Leu	Ala	Thr	Glu	Gln	Pro	Leu	Thr	Ala	275	280	285	
Lys	Lys	Lys	Val	Leu	Phe	Ala	Leu	Cys	Ser	Leu	Leu	Arg	His	Phe				

Pro Tyr Ala Gln	Arg Gln Phe Leu Lys	Leu Gly Gly Leu Gln Val
305		310 315
Leu Arg Thr Leu	Val Gln Glu Lys Gly	Thr Glu Val Leu Ala Val
320		325 330
Arg Val Val Thr	Leu Leu Tyr Asp Leu	Val Thr Glu Lys Met Phe
335		340 345
Ala Glu Glu Glu	Ala Glu Leu Thr Gln	Glu Met Ser Pro Glu Lys
350		355 360
Leu Gln Gln Tyr	Arg Gln Val His Leu	Leu Pro Gly Leu Trp Glu
365		370 375
Gln Gly Trp Cys	Glu Ile Thr Ala His	Leu Leu Ala Leu Pro Glu
380		385 390
His Asp Ala Arg	Glu Lys Val Leu Gln	Thr Leu Gly Val Leu Leu
395		400 405
Thr Thr Cys Arg	Asp Arg Tyr Arg Gln	Asp Pro Gln Leu Gly Arg
410		415 420
Thr Leu Ala Ser	Leu Gln Ala Glu Tyr	Gln Val Leu Ala Ser Leu
425		430 435
Glu Leu Gln Asp	Gly Glu Asp Glu Gly	Tyr Phe Gln Glu Leu Leu
440		445 450
Gly Ser Val Asn	Ser Leu Leu Lys Glu	Leu Arg
455		460

<210> 302  
 <211> 2136  
 <212> DNA  
 <213> Homo sapiens

<400> 302  
 ttccggcttcc gtagaggaag tggcgcggac cttcatttgg ggtttcgggtt 50  
 ccccccttc cccttccccg gggctctgggg gtgacattgc accgcgcccc 100  
 tcgtggggtc gcgttgccac cccacgcgga ctccccagct ggcgcgcccc 150  
 tcccatttgc ctgtcctggt caggccccca ccccccttcc cacctgacca 200  
 gccatggggg ctgcggtggt ttccggctgc actttcgtcg cgttcggccc 250  
 ggccttcgcg cttttcttga tcaactgtggc tggggaccgc cttcgcgtta 300  
 tcatcctggt cgcaggggca tttttctggc tgggtctcct gtccttgccc 350  
 tctgtggtct ggttcatott ggtccatgtg accgaccggt cagatgcccg 400  
 gctccagtac ggctcctga tttttggtgc tgctgtctct gtccttctac 450  
 aggaggtggt ccgctttgcc tactacaagc tgcttaagaa ggcagatgaa 500  
 gggtttagcat cgctgagtga ggacggaaga tcacccatct ccatccgcca 550

gatggcctat gtttctggtc tctccttcgg tatcatcagt ggtgtcttct 600  
ctgttatcaa tattttggct gatgcacttg ggccagggtg ggttgggatc 650  
catggagact caccctatta cttcctgact tcagcctttc tgacagcagc 700  
cattatcctg ctccatacct tttggggagt tgtgttcttt gatgcctgtg 750  
agaggagacg gtactgggct ttgggcctgg tggttgggag tcacctactg 800  
acatcgggac tgacattcct gaacccttg tatgaggcca gcctgctgcc 850  
catctatgca gtcactgttt ccatggggct ctgggccttc atcacagctg 900  
gagggctcct ccgaagtatt cagcgcagcc tcttgtgtaa ggactgacta 950  
cctggactga tcgcctgaca gatccacct gcctgtccac tgcccatgac 1000  
tgagcccagc cccagcccgg gtccattgcc cacattctct gtctccttct 1050  
cgtcgggtcta cccactacc tccagggttt tgctttgtcc ttttgtgacc 1100  
gttagtctct aagctttacc aggagcagcc tgggttcagc cagtcaagtga 1150  
ctggtggggt tgaatctgca cttatcccca ccacctgggg acccccttgt 1200  
tgtgtccagg actccccctg tgtcagtgtc ctgctctcac cctgcccagg 1250  
actcacctcc ctccccctct gcaggccgac ggcaggagga cagtccgggtg 1300  
atggtgtatt ctgccctgcg catcccaccc gaggactgag ggaacctagg 1350  
ggggaccctt gggcctgggg tgccctcctg atgtcctcgc cctgtatttc 1400  
tccatctcca gttctggaca gtgcagggtt ccaagaaaag ggacctagtt 1450  
tagccattgc cctggagatg aaattaatgg aggtcaagg atagatgagc 1500  
tctgagtttc tcagtactcc ctcaagactg gacatcttgg tctttttctc 1550  
aggcctgagg gggaaccatt tttggtgtga taaataccct aaactgcctt 1600  
tttttctttt ttgaggtggg gggagggagg aggtatattg gaactcttct 1650  
aacctccttg ggctatatatt tctctcctcg agttgctcct catggctggg 1700  
ctcatttcgg tccctttctc cttggtccca gaccttgggg gaaaggaagg 1750  
aagtgcattg ttgggaactg gcattactgg aactaatggt tttaacctcc 1800  
ttaaccacca gcatccctcc tctccccaag gtgaagtgga gggtgctgtg 1850  
gtgagctggc cactccagag ctgcagtgcc actggaggag tcagactacc 1900  
atgacatcgt agggaaggag gggagatttt tttgtagttt ttaattgggg 1950  
tgtgggaggg gcggggagggt tttctataaa ctgtatcatt ttctgctgag 2000  
ggtggagtgt cccatccttt taatcaagggt gattgtgatt ttgactaata 2050  
aaaaagaatt tgtaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2100  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa 2136

<210> 303  
 <211> 247  
 <212> PRT  
 <213> Homo sapiens

<400> 303

Met	Gly	Ala	Ala	Val	Phe	Phe	Gly	Cys	Thr	Phe	Val	Ala	Phe	Gly	1	5	10	15
Pro	Ala	Phe	Ala	Leu	Phe	Leu	Ile	Thr	Val	Ala	Gly	Asp	Pro	Leu	20	25	30	
Arg	Val	Ile	Ile	Leu	Val	Ala	Gly	Ala	Phe	Phe	Trp	Leu	Val	Ser	35	40	45	
Leu	Leu	Leu	Ala	Ser	Val	Val	Trp	Phe	Ile	Leu	Val	His	Val	Thr	50	55	60	
Asp	Arg	Ser	Asp	Ala	Arg	Leu	Gln	Tyr	Gly	Leu	Leu	Ile	Phe	Gly	65	70	75	
Ala	Ala	Val	Ser	Val	Leu	Leu	Gln	Glu	Val	Phe	Arg	Phe	Ala	Tyr	80	85	90	
Tyr	Lys	Leu	Leu	Lys	Lys	Ala	Asp	Glu	Gly	Leu	Ala	Ser	Leu	Ser	95	100	105	
Glu	Asp	Gly	Arg	Ser	Pro	Ile	Ser	Ile	Arg	Gln	Met	Ala	Tyr	Val	110	115	120	
Ser	Gly	Leu	Ser	Phe	Gly	Ile	Ile	Ser	Gly	Val	Phe	Ser	Val	Ile	125	130	135	
Asn	Ile	Leu	Ala	Asp	Ala	Leu	Gly	Pro	Gly	Val	Val	Gly	Ile	His	140	145	150	
Gly	Asp	Ser	Pro	Tyr	Tyr	Phe	Leu	Thr	Ser	Ala	Phe	Leu	Thr	Ala	155	160	165	
Ala	Ile	Ile	Leu	Leu	His	Thr	Phe	Trp	Gly	Val	Val	Phe	Phe	Asp	170	175	180	
Ala	Cys	Glu	Arg	Arg	Arg	Tyr	Trp	Ala	Leu	Gly	Leu	Val	Val	Gly	185	190	195	
Ser	His	Leu	Leu	Thr	Ser	Gly	Leu	Thr	Phe	Leu	Asn	Pro	Trp	Tyr	200	205	210	
Glu	Ala	Ser	Leu	Leu	Pro	Ile	Tyr	Ala	Val	Thr	Val	Ser	Met	Gly	215	220	225	
Leu	Trp	Ala	Phe	Ile	Thr	Ala	Gly	Gly	Ser	Leu	Arg	Ser	Ile	Gln	230	235	240	
Arg	Ser	Leu	Leu	Cys	Lys	Asp	245											

<210> 304  
 <211> 240  
 <212> DNA  
 <213> Homo sapiens

<220>

<221> unsure  
<222> 108, 123, 126, 154, 198, 206, 217  
<223> unknown base

<400> 304  
aagctgggtt aaggaagcag aggagggtta gattcgttga gtgaggacgg 50  
aagatcaacc catttccatt ccgccagatg gcctatgttt ctggtctctc 100  
ccttcggnat catcagtggg gtnttntctg ttatcaatat tttggctgat 150  
gcanttgggc caggtgtggg tgggatccat ggagactcac cctattantt 200  
cctganttca gccttnttga cagcagccat tatcctgctc 240

<210> 305  
<211> 378  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 58, 94, 132, 186, 191, 220, 240, 248, 280, 311, 332  
<223> unknown base

<400> 305  
gaccgaccgt tcagatgccc ggttccagta cggcttcctg atttttggtg 50  
ctgctgtntc tgtccttcta caggaggtgt tccgctttgc ctantacaag 100  
ctgcttaaga aggcagatga ggggttagca tngctgagtg aggacggaag 150  
atcacccatt tccatccgcc agatggccta tgttnttggg ntttccttcg 200  
gtatcatcag tgggtgtttt tctgttatca atattttggg tgatgcantt 250  
gggccagggtg tggttgggat ccatggagan tcaccotatt aattcctgaa 300  
ttcagccttt ntgacagcag ccattatcct gntocatacc ttttggggag 350  
ttgtgttttt tgatgcctgt gagaggag 378

<210> 306  
<211> 655  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 1, 22, 129, 133, 184  
<223> unknown base

<400> 306  
ngttggagaa gtggcgcgga cnttcatttg gggtttcggt ttccccctt 50  
tccctttccc cggggtcttg ggtgacattg cacgggcccc tcgtggggtc 100  
gcgttgccac cccacgcgga ctccccagnt ggnngcgccct tcccatttgc 150  
ctgtcctggt caggccccca ccccccttcc cacntgacca gccatggggg 200  
ctgcggtgtt tttcggctgc actttcgtcg cgttcggccc ggccttcgcg 250

cttttcttga tcaactgtggc tggggacccg cttcgcgtta tcatcctggt 300  
 cgcaggggca tttttctggc tgggtctccct gctcctggcc tctgtggtct 350  
 ggttcatctt ggtccatgtg accgaccggt cagatgcccg gctccagtac 400  
 ggcctcctga tttttggtgc tgctgtctct gtcctttctac aggaggtggt 450  
 ccgctttgcc tactacaagc tgcttaagaa ggcagatgag gggtttagcat 500  
 cgctgagtga ggacggaaga tcacccatct ccatccgcca gatggcctat 550  
 gtttctggtc tctccttcgg tatcatcagt ggtgtcttct ctgttatcaa 600  
 tattttggct gatgcacttg ggccagggtg ggttgggatc catggagact 650  
 cacc 655

<210> 307  
 <211> 650  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 52, 89, 128  
 <223> unknown base

<400> 307  
 gtaaaagaaa gtggccggac cttcattggg gtttcggttc cccctttcc 50  
 cnttccccgg ggtctggggg tgacattgca cgcgcacct cgtggggtcg 100  
 cgttgccacc ccacgcgga cccccagntg gcgcgcacct cccatttgcc 150  
 tgtcctggtc agggccccac ccccttccc acctgaccag ccatgggggc 200  
 tgcgggtgtt ttggggctgc actttcgctg cgttcgggac cggccttcgc 250  
 gcttttcttg atcaactgtg ctggggaccc gcttcgcgtt atcatcctgg 300  
 tcgcaggggc atttttctgg ctgggtctcc tgctcctggc ctctgtggtc 350  
 tggttcatct tgggtccatg gaccgaccg tcagatgcc ggctccagta 400  
 cggcctcctg atttttggtg ctgctgtctc tgctcttcta caggaggtgt 450  
 tccgctttgc ctactacaag ctgcttaaga aggcagatga ggggttagca 500  
 tcgctgagtg aggacggaag atcacccatc tccatccgcc agatggccta 550  
 tgtttctggt ctctccttcg gtatcatcag tgggtgtctt tctgttatca 600  
 atattttggc tgatgcactt gggccagggt tgggtgggat ccatggagac 650

<210> 308  
 <211> 1570  
 <212> DNA  
 <213> Homo sapiens

<400> 308  
 gccccaggga gcagtgggtg gttataactc agggccggtg cccagagccc 50



aggaggaggc agtggccagg aaggcacagg cctgagaagt ctgaggctga 100  
 gctgggagca aatccccac cccctacctg ggggacaggg caagtgagac 150  
 ctgggtgaggg tggctcagca ggcagggaag gagaggtgtc tgtgcgtcct 200  
 gcaccacat ctttctctgt cccctccttg ccctgtctgg aggctgctag 250  
 actcctatct tctgaattct atagtgcctg ggtctcagcg cagtgccgat 300  
 ggtggcccg ccttgtggtt cctctctacc tggggaaata aggtgcagcg 350  
 gccatggcta cagcaagacc cccctggatg tgggtgctct gtgctctgat 400  
 cacagccttg cttctggggg tcacagagca tgttctcgcc aacaatgatg 450  
 tttcctgtga ccacccctct aacaccgtgc cctctgggag caaccaggac 500  
 ctgggagctg gggccgggga agacgcccg tcggatgaca gcagcagccg 550  
 catcatcaat ggatccgact gcgatatgca caccagccg tggcaggccg 600  
 cgctgttget aaggcccaac cagctctact gcggggcggt gttggtgcat 650  
 ccacagtggc tgctcacggc cgcctactgc aggaagaaag ttttcagagt 700  
 ccgtctcggc cactactccc tgctaccagt ttatgaatct gggcagcaga 750  
 tgttccaggg ggtcaaactc atccccacc ctggctactc ccaccctggc 800  
 cactctaacy acctcatgct catcaaactg aacagaagaa ttcgtccac 850  
 taaagatgtc agaccatca acgtctctc tcattgtccc tctgctggga 900  
 caaagtgtt ggtgtctggc tgggggacaa ccaagagccc ccaagtgcac 950  
 ttcctaagg tcctccagt cttgaatata agcgtgctaa gtcagaaaag 1000  
 gtgcgaggat gcttaccga gacagataga tgacaccatg ttctgcgccg 1050  
 gtgacaaagc aggtagagac tcctgccagg gtgattctgg ggggcctgtg 1100  
 gtctgcaatg gctccctgca gggactcgtg tcctggggag attacccttg 1150  
 tgcccggccc aacagaccg gtgtctacac gaacctctgc aagttcacca 1200  
 agtgatcca ggaaccatc caggccaact cctgagtcac cccaggactc 1250  
 agcacaccg catccccacc tgctgcaggg acagccctga cactcctttc 1300  
 agacctcat tccttcccag agatgttgag aatgttcac tctccagccc 1350  
 ctgaccccat gtctcctgga ctgagggtct gcttcccca cattgggctg 1400  
 accgtgtctc tctagttgaa ccctgggaac aatttccaaa actgtccagg 1450  
 gggggggttg cgtctcaatc tcctggggc actttcatcc tcaagctcag 1500  
 ggcccatccc ttctctgcag ctctgaccca aatttagtcc cagaaataaa 1550  
 ctgagaagtg gaaaaaaaaa 1570

<210> 309

<211> 293  
 <212> PRT  
 <213> Homo sapiens

<400> 309

Met	Ala	Thr	Ala	Arg	Pro	Pro	Trp	Met	Trp	Val	Leu	Cys	Ala	Leu	
1				5					10					15	
Ile	Thr	Ala	Leu	Leu	Leu	Gly	Val	Thr	Glu	His	Val	Leu	Ala	Asn	
				20					25					30	
Asn	Asp	Val	Ser	Cys	Asp	His	Pro	Ser	Asn	Thr	Val	Pro	Ser	Gly	
				35					40					45	
Ser	Asn	Gln	Asp	Leu	Gly	Ala	Gly	Ala	Gly	Glu	Asp	Ala	Arg	Ser	
				50					55					60	
Asp	Asp	Ser	Ser	Ser	Arg	Ile	Ile	Asn	Gly	Ser	Asp	Cys	Asp	Met	
				65					70					75	
His	Thr	Gln	Pro	Trp	Gln	Ala	Ala	Leu	Leu	Leu	Arg	Pro	Asn	Gln	
				80					85					90	
Leu	Tyr	Cys	Gly	Ala	Val	Leu	Val	His	Pro	Gln	Trp	Leu	Leu	Thr	
				95					100					105	
Ala	Ala	His	Cys	Arg	Lys	Lys	Val	Phe	Arg	Val	Arg	Leu	Gly	His	
				110					115					120	
Tyr	Ser	Leu	Ser	Pro	Val	Tyr	Glu	Ser	Gly	Gln	Gln	Met	Phe	Gln	
				125					130					135	
Gly	Val	Lys	Ser	Ile	Pro	His	Pro	Gly	Tyr	Ser	His	Pro	Gly	His	
				140					145					150	
Ser	Asn	Asp	Leu	Met	Leu	Ile	Lys	Leu	Asn	Arg	Arg	Ile	Arg	Pro	
				155					160					165	
Thr	Lys	Asp	Val	Arg	Pro	Ile	Asn	Val	Ser	Ser	His	Cys	Pro	Ser	
				170					175					180	
Ala	Gly	Thr	Lys	Cys	Leu	Val	Ser	Gly	Trp	Gly	Thr	Thr	Lys	Ser	
				185					190					195	
Pro	Gln	Val	His	Phe	Pro	Lys	Val	Leu	Gln	Cys	Leu	Asn	Ile	Ser	
				200					205					210	
Val	Leu	Ser	Gln	Lys	Arg	Cys	Glu	Asp	Ala	Tyr	Pro	Arg	Gln	Ile	
				215					220					225	
Asp	Asp	Thr	Met	Phe	Cys	Ala	Gly	Asp	Lys	Ala	Gly	Arg	Asp	Ser	
				230					235					240	
Cys	Gln	Gly	Asp	Ser	Gly	Gly	Pro	Val	Val	Cys	Asn	Gly	Ser	Leu	
				245					250					255	
Gln	Gly	Leu	Val	Ser	Trp	Gly	Asp	Tyr	Pro	Cys	Ala	Arg	Pro	Asn	
				260					265					270	
Arg	Pro	Gly	Val	Tyr	Thr	Asn	Leu	Cys	Lys	Phe	Thr	Lys	Trp	Ile	
				275					280					285	
Gln	Glu	Thr	Ile	Gln	Ala	Asn	Ser								

<210> 310  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 310  
 tcctgtgacc acccctctaa cacc 24

<210> 311  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 311  
 ctggaacatc tgctgcccag attc 24

<210> 312  
 <211> 50  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 312  
 gtgggatgac agcagcagcc gcatcatcaa tggatccgac tgcgatatgc 50

<210> 313  
 <211> 3010  
 <212> DNA  
 <213> Homo sapiens

<400> 313  
 atggtcaacg accggtggaa gaccatgggc ggcgctgccc aacttgagga 50  
 ccggccgcgc gacaagccgc agcggccgag ctgaggctac gtgctgtgca 100  
 ccgtgctgct ggccctggct gtgctgctgg ctgtagctgt caccggtgcc 150  
 gtgctcttcc tgaaccacgc ccacgcgccg ggcacggcgc cccacactgt 200  
 cgtcagcact ggggctgcca gcgccaacag cgccctggtc actgtggaaa 250  
 gggcggacag ctgcacctc agcatcctca ttgaccgcgc ctgccccgac 300  
 ctcaccgaca gcttcgcacg cctggagagc gccagggcct cgggtgctgca 350  
 ggcgctgaca gagcaccagg ccagccacg gctgggtgggc gaccaggagc 400  
 aggagctgct ggacacgctg gccgaccagc tgccccggct gctggcccca 450  
 gcctcagagc tgcagacgga gtgcatgggg ctgcggaagg ggcattggac 500  
 gctgggcccag ggcctcagcg ccctgcagag tgagcagggc cgcctcatcc 550

agctttctctc tgagagccag ggccacatgg ctcacctggt gaactccgtc 600  
 agcgacatcc tggatgccct gcagagggac cgggggctgg gccggccccg 650  
 caacaaggcc gaccttcaga gagcgctgc cgggggaacc cggccccggg 700  
 gctgtgccac tggctcccgg ccccgagact gtctggacgt cctcctaagc 750  
 ggacagcagg acgatggcgt ctactctgtc tttcccaccc actaccggc 800  
 cggcttcag gtgtactgtg acatgcgcac ggacggcggc ggctggacgg 850  
 tgtttcagcg cggggaggac ggctccgtga acttcttcgg gggctgggac 900  
 gcgtaccgag acggctttgg caggctcacc ggggagcact ggctagggct 950  
 caagaggatc cagccctga ccacacaggc tgcctacgag ctgcacgtgg 1000  
 acctggagga ctttgagaat ggcacggcct atgcccgtc cgggagcttc 1050  
 ggcgtgggct tgttctccgt ggaccctgag gaagacgggt acccgctcac 1100  
 cgtggctgac tattccggca ctgcaggcga ctccctcctg aagcacagcg 1150  
 gcatgaggtt caccaccaag gaccgtgaca gcgaccattc agagaacaac 1200  
 tgtgccgcct tctaccgcg tgcctggtgg taccgcaact gccacacgtc 1250  
 caacctcaat gggcagtacc tgcgcggtgc gcacgcctcc tatgccgacg 1300  
 gcgtggagtg gtctcctgg accggtggc agtactcact caagttctct 1350  
 gagatgaaga tccggccggt cggggaggac cgctagactg gtgcaccttg 1400  
 tccttgcccc tgctggctcc tgtcgcccc tccccgacct cacctcactc 1450  
 tttcgtgaat gttctccacc cacctgtgcc tggcggacct actctccagt 1500  
 agggaggggc cgggccatcc ctgacacgaa gctccctggg ccggtgaagt 1550  
 cacacatcgc cttctcgccg tccccacccc ctccatttgg cagctcactg 1600  
 atctcttgcc tctgctgatg ggggctggca aacttgacga ccccaactcc 1650  
 tgcctgcccc cactgtgact ccggtgctgt ttgccgtccc ctggccagga 1700  
 tggaggagtgc tgccccaggc accctctgcc ctgcccggcc aaataccccg 1750  
 cattatgggg acagagagca gggggcagac agcaccctg gagtctcct 1800  
 agcagatcgt ggggaatgtc aggtctctct gaggtcaggt ctgaggccag 1850  
 tatcctccag ccctcccaat gccaaccccc acccgtttc cctggtgccc 1900  
 agagaacca cctctcccc aagggcctca gcctggctgt gggctgggtg 1950  
 gccccatcct accaggccct gaggtcagga tggggagctg ctgccttttg 2000  
 ggaccacgc tccaaggctg agaccagttc cctggaggcc acccaccctg 2050  
 tgccccggca ggctgggggt ctgcagtcct cttacctget gtgcccacct 2100  
 gctctctgtc tcaaagagg cccaacccat cccccacca gctcccgccc 2150

gtcctcctac ctggggcagc cggggctgcc atcccatthc tcctgcctct 2200  
 ggaaggtggg tggggccctg caccgtggg ctggactgcg ctaatgggaa 2250  
 gctcttggtt ttctgggctg gggcctaggc agggctggga tgaggcttgt 2300  
 acaacccccca ccaccaatth cccagggact ccagggtcct gaggcctccc 2350  
 aggagggcct tgggggtgat gacccttcc ctgagggtggc tgtctccatg 2400  
 aggaggccaa cccttgccat tgaccgtggc cacctggacc caggccaggc 2450  
 ccggcccggc gagtgggtcaa gggacaggga ccacctcacc gggcaaattg 2500  
 ggtcgggggg actggggcac cagaccaggc accacctgga cactttcttg 2550  
 ttgaatcctc ccaacaccca gcacgtgtc atccccactc cttgtgtgca 2600  
 cacatgcaga ggtgagaccc gcagggtccc aggaccagca gccacaagg 2650  
 cagggtgga gccgggtcct cagctgtctg ctcagcagcc ctggaccgc 2700  
 gtgcgttacg tcaggccag atgcaggcg gcttttccaa ggctcctga 2750  
 tgggggcctc cgaaagggt ggagtcagcc ttggggagct gcctagcagc 2800  
 ctctcctcgg gcaggaggg aggtggcttc ctccaaagga caccgatgg 2850  
 cagggtgcta gggggtgtgg ggttcgcttc tcccttcccc tccactgaa 2900  
 gtttgtgctt aaaaaacaat aaatttgact tggcaccact gggggttgg 2950  
 gggagaggcc gtgtgacctg gctctctgtc ccagtgcac caggatcatc 3000  
 acatgcgcag 3010

<210> 314  
 <211> 461  
 <212> PRT  
 <213> Homo sapiens

<400> 314  
 Met Val Asn Asp Arg Trp Lys Thr Met Gly Gly Ala Ala Gln Leu  
     1                    5                    10                    15  
 Glu Asp Arg Pro Arg Asp Lys Pro Gln Arg Pro Ser Cys Gly Tyr  
                     20                    25                    30  
 Val Leu Cys Thr Val Leu Leu Ala Leu Ala Val Leu Leu Ala Val  
                     35                    40                    45  
 Ala Val Thr Gly Ala Val Leu Phe Leu Asn His Ala His Ala Pro  
                     50                    55                    60  
 Gly Thr Ala Pro Pro Pro Val Val Ser Thr Gly Ala Ala Ser Ala  
                     65                    70                    75  
 Asn Ser Ala Leu Val Thr Val Glu Arg Ala Asp Ser Ser His Leu  
                     80                    85                    90  
 Ser Ile Leu Ile Asp Pro Arg Cys Pro Asp Leu Thr Asp Ser Phe  
                     95                    100                    105

Ala Arg Leu Glu Ser	Ala Gln Ala Ser	Val Leu Gln Ala Leu Thr
110		115 120
Glu His Gln Ala Gln	Pro Arg Leu Val	Gly Asp Gln Glu Gln Glu
125		130 135
Leu Leu Asp Thr Leu	Ala Asp Gln Leu	Pro Arg Leu Leu Ala Arg
140		145 150
Ala Ser Glu Leu Gln	Thr Glu Cys Met	Gly Leu Arg Lys Gly His
155		160 165
Gly Thr Leu Gly Gln	Gly Leu Ser Ala	Leu Gln Ser Glu Gln Gly
170		175 180
Arg Leu Ile Gln Leu	Leu Ser Glu Ser	Gln Gly His Met Ala His
185		190 195
Leu Val Asn Ser Val	Ser Asp Ile Leu	Asp Ala Leu Gln Arg Asp
200		205 210
Arg Gly Leu Gly Arg	Pro Arg Asn Lys	Ala Asp Leu Gln Arg Ala
215		220 225
Pro Ala Arg Gly Thr	Arg Pro Arg Gly	Cys Ala Thr Gly Ser Arg
230		235 240
Pro Arg Asp Cys Leu	Asp Val Leu Leu	Ser Gly Gln Gln Asp Asp
245		250 255
Gly Val Tyr Ser Val	Phe Pro Thr His	Tyr Pro Ala Gly Phe Gln
260		265 270
Val Tyr Cys Asp Met	Arg Thr Asp Gly	Gly Gly Trp Thr Val Phe
275		280 285
Gln Arg Arg Glu Asp	Gly Ser Val Asn	Phe Phe Arg Gly Trp Asp
290		295 300
Ala Tyr Arg Asp Gly	Phe Gly Arg Leu	Thr Gly Glu His Trp Leu
305		310 315
Gly Leu Lys Arg Ile	His Ala Leu Thr	Thr Gln Ala Ala Tyr Glu
320		325 330
Leu His Val Asp Leu	Glu Asp Phe Glu	Asn Gly Thr Ala Tyr Ala
335		340 345
Arg Tyr Gly Ser Phe	Gly Val Gly Leu	Phe Ser Val Asp Pro Glu
350		355 360
Glu Asp Gly Tyr Pro	Leu Thr Val Ala	Asp Tyr Ser Gly Thr Ala
365		370 375
Gly Asp Ser Leu Leu	Lys His Ser Gly	Met Arg Phe Thr Thr Lys
380		385 390
Asp Arg Asp Ser Asp	His Ser Glu Asn	Asn Cys Ala Ala Phe Tyr
395		400 405
Arg Gly Ala Trp Trp	Tyr Arg Asn Cys	His Thr Ser Asn Leu Asn
410		415 420

Gly Gln Tyr Leu Arg Gly Ala His Ala Ser Tyr Ala Asp Gly Val  
425 430 435

Glu Trp Ser Ser Trp Thr Gly Trp Gln Tyr Ser Leu Lys Phe Ser  
440 445 450

Glu Met Lys Ile Arg Pro Val Arg Glu Asp Arg  
455 460

<210> 315  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 315  
cacacgtcca acctcaatgg gcag 24

<210> 316  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 316  
gaccagcagg gccaaaggaca agg 23

<210> 317  
<211> 44  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 317  
gttctctgag atgaagatcc ggccgggtccg ggagtaccgc ttag 44

<210> 318  
<211> 1841  
<212> DNA  
<213> Homo sapiens

<400> 318  
gcagtcagag acttccccctg cccctcgtcg ggaaagaaca ttaggaatgc 50  
cttttagtgc cttgcttctt gaactagctc acagtagccc ggcgggcccag 100  
ggcaatccga ccacatttca ctctcacgc ttaggaatc cagatgcagg 150  
ccaagtacag cagcacgagg gacatgctgg atgatgatgg ggacaccacc 200  
atgagcctgc attctcaagc ctctgccaca actcggcatc cagagccccg 250  
gcgcacagag cacagggctc cctcttcaac gtggcgacca gtggccctga 300  
ccctgctgac tttgtgcttg gtgctgctga tagggctggc agccctgggg 350  
cttttgtttt ttcagtacta ccagctctcc aatactggtc aagacaccat 400

ttctcaaatg gaagaaagat taggaaatac gtcccaagag ttgcaatctc 450  
 ttcaagtcca gaatataaag cttgcaggaa gtctgcagca tgtggctgaa 500  
 aaactctgtc gtgagctgta taacaaagct ggagcacaca ggtgcagccc 550  
 ttgtacagaa caatggaaat ggcatggaga caattgctac cagttctata 600  
 aagacagcaa aagttgggag gactgtaaat atttctgcct tagtgaaaac 650  
 tctaccatgc tgaagataaa caaacaagaa gacctggaat ttgccgcgtc 700  
 tcagagctac tctgagtttt tctactctta ttggacaggg cttttgcgcc 750  
 ctgacagtgg caaggcctgg ctgtggatgg atggaacccc tttcacttct 800  
 gaactgttcc atattataat agatgtcacc agcccaagaa gcagagactg 850  
 tgtggccatc ctcaatggga tgatcttctc aaaggactgc aaagaattga 900  
 agcgttgtgt ctgtgagaga agggcaggaa tggatgaagcc agagagcctc 950  
 catgtccccc ctgaaacatt aggcgaaggt gactgattcg cctctgcaa 1000  
 ctacaaatag cagagtgagc caggcgggtgc caaagcaagg gctagttgag 1050  
 acattgggaa atggaacata atcaggaaag actatctctc tgactagtac 1100  
 aaaatgggtt ctctgttttc ctgttcagga tcaccagcat ttctgagctt 1150  
 gggtttatgc acgtatttaa cagtcacaag aagtottatt tacatgccac 1200  
 caaccaacct cagaaacca taatgtcatc tgccttcttg gcttagagat 1250  
 aacttttagc tctctttctt ctcaatgtct aatatcacct cctgtttttc 1300  
 atgtcttctt tacacttggg ggaataagaa actttttgaa gtagaggaaa 1350  
 tacattgagg taacatcctt ttctctgaca gtcaagtagt ccatcagaaa 1400  
 ttggcagtca cttccagat tgtaccagca aatacacaag gaattctttt 1450  
 tgtttgtttc agttcatact agtcccttcc caatccatca gtaaagaccc 1500  
 catctgcctt gtccatgccg tttcccaaca gggatgtcac ttgatatgag 1550  
 aatctcaaat ctcaatgcct tataagcatt ccttctgtg tccattaaga 1600  
 ctctgataat tgtctccctt ccataggaat ttctcccagg aaagaaatat 1650  
 atcccatct ccgtttcata tcagaactac cgtcccagat attcccttca 1700  
 gagagattaa agaccagaaa aaagtgagcc tcttcatctg cacctgtaat 1750  
 agtttcagtt cctattttct tccattgacc catatttata cttttcaggt 1800  
 actgaagatt taataataat aaatgtaaat actgtgaaaa a 1841

<210> 319

<211> 280

<212> PRT

<213> Homo sapiens



<400> 319

Met	Gln	Ala	Lys	Tyr	Ser	Ser	Thr	Arg	Asp	Met	Leu	Asp	Asp	Asp
1				5					10					15
Gly	Asp	Thr	Thr	Met	Ser	Leu	His	Ser	Gln	Ala	Ser	Ala	Thr	Thr
				20					25					30
Arg	His	Pro	Glu	Pro	Arg	Arg	Thr	Glu	His	Arg	Ala	Pro	Ser	Ser
				35					40					45
Thr	Trp	Arg	Pro	Val	Ala	Leu	Thr	Leu	Leu	Thr	Leu	Cys	Leu	Val
				50					55					60
Leu	Leu	Ile	Gly	Leu	Ala	Ala	Leu	Gly	Leu	Leu	Phe	Phe	Gln	Tyr
				65					70					75
Tyr	Gln	Leu	Ser	Asn	Thr	Gly	Gln	Asp	Thr	Ile	Ser	Gln	Met	Glu
				80					85					90
Glu	Arg	Leu	Gly	Asn	Thr	Ser	Gln	Glu	Leu	Gln	Ser	Leu	Gln	Val
				95					100					105
Gln	Asn	Ile	Lys	Leu	Ala	Gly	Ser	Leu	Gln	His	Val	Ala	Glu	Lys
				110					115					120
Leu	Cys	Arg	Glu	Leu	Tyr	Asn	Lys	Ala	Gly	Ala	His	Arg	Cys	Ser
				125					130					135
Pro	Cys	Thr	Glu	Gln	Trp	Lys	Trp	His	Gly	Asp	Asn	Cys	Tyr	Gln
				140					145					150
Phe	Tyr	Lys	Asp	Ser	Lys	Ser	Trp	Glu	Asp	Cys	Lys	Tyr	Phe	Cys
				155					160					165
Leu	Ser	Glu	Asn	Ser	Thr	Met	Leu	Lys	Ile	Asn	Lys	Gln	Glu	Asp
				170					175					180
Leu	Glu	Phe	Ala	Ala	Ser	Gln	Ser	Tyr	Ser	Glu	Phe	Phe	Tyr	Ser
				185					190					195
Tyr	Trp	Thr	Gly	Leu	Leu	Arg	Pro	Asp	Ser	Gly	Lys	Ala	Trp	Leu
				200					205					210
Trp	Met	Asp	Gly	Thr	Pro	Phe	Thr	Ser	Glu	Leu	Phe	His	Ile	Ile
				215					220					225
Ile	Asp	Val	Thr	Ser	Pro	Arg	Ser	Arg	Asp	Cys	Val	Ala	Ile	Leu
				230					235					240
Asn	Gly	Met	Ile	Phe	Ser	Lys	Asp	Cys	Lys	Glu	Leu	Lys	Arg	Cys
				245					250					255
Val	Cys	Glu	Arg	Arg	Ala	Gly	Met	Val	Lys	Pro	Glu	Ser	Leu	His
				260					265					270
Val	Pro	Pro	Glu	Thr	Leu	Gly	Glu	Gly	Asp					
				275					280					

<210> 320

<211> 468

<212> DNA

<213> Homo sapiens

<220>  
<221> unsure  
<222> 59, 95, 149, 331, 364, 438, 446  
<223> unknown base

<400> 320  
aattttcacc gctgtaggaa tccagatgca ggccaagtac agcagcacga 50  
gggacatgnt ggatgatgat gggacaccac catgagcctg cattntcaag 100  
cttttgccac aattcggcat ccagagcccc ggcgcacaga gcacagggnt 150  
cctttttcaa cgtggcgacc agtggccctg accctgctga ctttgtgctt 200  
ggtgctgctg atagggctgg cagccctggg gcttttgttt tttcagtact 250  
accagctctc caatactggt caagacacca tttctcaaat ggaagaaaga 300  
ttaggaaata cgtcccaaga gttgcaattt nttcaagtcc agaataataa 350  
gcttgacagga agtntgcagc atgtggctga aaaactctgt cgtgagctgt 400  
ataacaaagc tggaggaact ttgaaggagg gcaaagtntc ctcatntact 450  
atacacacac cacttccc 468

<210> 321  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 321  
atgcaggcca agtacagcag cac 23

<210> 322  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 322  
catgctgacg acttcctgca agc 23

<210> 323  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 323  
ccacacagtc tctgcttctt ggg 23

<210> 324  
<211> 40  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 324  
atgctggatg atgatgggga caccaccatg agcctgcatt 40

<210> 325  
<211> 2988  
<212> DNA  
<213> Homo sapiens

<400> 325  
gcgagcgca agaaccctgc gcagcccaga gcagctgctg gaggggaatc 50  
gaggcgcggc tccggggatt cggctcgggc cgctggctct gctctgcggg 100  
gagggagcgg gcccgcccgc ggggcccag ccctccgat ccgccccctc 150  
cccggtcccg cccctcggga gactcctctg gctgctctgg gggttcgccg 200  
gggcccggga cccgcggtcc gggcgccatg cgggcacgc tgctgctgtc 250  
ggtgctgcgg cccgcagggc ccgtggccgt gggcatctcc ctgggcttca 300  
ccctgagcct gctcagcgtc acctgggtgg aggagccgtg cggcccaggc 350  
ccgccccaac ctggagactc tgagctgccg ccgcgcgga acaccaacgc 400  
ggcgcgccgg cccaactcgg tgcagcccgg agcggagcgc gagaagcccg 450  
gggcccggga aggcgcggg gagaattggg agccgcgcgt cttgccctac 500  
caccctgcac agcccggcca ggccgcaaa aaggccgtca ggaccgcta 550  
catcagcag gagctgggca tcaggcagag gctgctggtg gcggtgctga 600  
cctctcagac cacgctgcc acgctgggcg tggccgtgaa ccgcacgctg 650  
gggcaccggc tggagcgtgt ggtgttcctg acgggcgcac ggggcccgcg 700  
ggccccacct ggcattggcag tggtagcgtt gggcgaggag cgaccattg 750  
gacacctgca cctggcgctg cgccacctgc tggagcagca cggcgacgac 800  
tttgactggt tcttcctggt gcctgacacc acctacacc aggcgcacgg 850  
cctggcacgc ctaactggcc acctcagcct ggctccgcc gccacctgt 900  
acctgggccg gcccaggac ttcatcggcg gagagccac cccggccgc 950  
tactgccacg gaggttttg ggtgctgctg tcgcgcatgc tgctgcaaca 1000  
actgcgcccc cacctggaag gctgccgcaa cgacatcgtc agtgcgcgcc 1050  
ctgacgagtg gctgggtcgc tgcattctcg atgccaccgg ggtgggctgc 1100  
actggtgacc acgagggggt gcaactatagc catctggagc tgagccctgg 1150  
ggagccagtg caggagggg accctcattt ccgaagtgcc ctgacagccc 1200  
accctgtgcg tgaccctgtg cacatgtacc agctgcacaa agctttcgcc 1250  
cgagctgaac tggaacgcac gtaccaggag atccaggagt tacagtggga 1300

gatccagaat accagccatc tggccgttga tggggaccgg gcagctgctt 1350  
ggcccgtggg tattccagca ccatcccggc cggcctcccg ctttgaggtg 1400  
ctgcgctggg actacttcac ggagcagcac gctttctcct gcgccgatgg 1450  
ctcaccocgc tgcccactgc gtggggctga ccgggctgat gtggccgatg 1500  
ttctggggac agctctagag gagctgaacc gccgctacca cccggccttg 1550  
cggctccaga agcagcagct ggtgaatggc taccgacgct ttgatccggc 1600  
ccggggtatg gaatacacgc tggacttgca gctggaggca ctgaccccc 1650  
agggaggccg ccggcccctc actcgccgag tgcagctgct ccggccgctg 1700  
agccgcgtgg agatcttgcc tgtgccctat gtcactgagg cctcacgtct 1750  
cactgtgctg ctgcctctag ctgcggctga gcgtgacctg gccctggct 1800  
tcttgagggc ctttgccact gcagcactgg agcctggtga tgctgcggca 1850  
gccctgacct tgctgctact gtatgagccg cggcaggccc agcgcgtggc 1900  
ccatgcagat gtcttcgcac ctgtcaaggc ccacgtggca gagctggagc 1950  
ggcgtttccc cggtgcccgg gtgccatggc tcagtgtgca gacagccgca 2000  
ccctcaccac tgcgcctcat ggatctactc tccaagaagc acccgctgga 2050  
cacactgttc ctgctggccg ggccagacac ggtgctcacg cctgacttcc 2100  
tgaaccgctg ccgcatgcat gccatctccg gctggcaggc cttctttccc 2150  
atgcatttcc aagccttcca cccagggtgtg gccccaccac aagggcctgg 2200  
gccccagag ctgggcccgtg aactggccg ctttgatcgc caggcagcca 2250  
gcgaggcctg cttctacaac tccgactacg tggcagcccg tgggcgcctg 2300  
gcggcagcct cagaacaaga agaggagctg ctggagagcc tggatgtgta 2350  
cgagctgttc ctccacttct ccagtctgca tgtgctgcgg gcggtggagc 2400  
cggcgctgct gcagcgctac cgggccaga cgtgcagcgc gaggctcagt 2450  
gaggacctgt accaccgctg cctccagagc gtgcttgagg gcctcggtc 2500  
ccgaaccag ctggccatgc tactctttga acaggagcag ggcaacagca 2550  
cctgacccca ccctgtcccc gtgggcccgtg gcatggccac accccacccc 2600  
acttctcccc caaaaccaga gccacctgcc agcctcgctg ggcagggctg 2650  
gccgtagcca gacccaagc tggcccactg gtccctctc tggtctgtg 2700  
ggtccctggg ctctggacaa gactggggg acgtgcccc agagccacc 2750  
acttctcatc ccaaaccag tttccctgcc cctgacgct gctgattcgg 2800  
gctgtggcct ccacgtatct atgcagtaca gtctgcctga cgcagccct 2850  
gcctctgggc cctgggggct gggctgtaga agagttgttg gggaaggagg 2900

gagctgagga gggggcatct cccaacttct cccttttggga ccctgccgaa 2950

gctccctgcc ttttaataaac tggccaagtg tggaaaaa 2988

<210> 326

<211> 775

<212> PRT

<213> Homo sapiens

<400> 326

Met	Arg	Ala	Ser	Leu	Leu	Leu	Ser	Val	Leu	Arg	Pro	Ala	Gly	Pro	
1				5					10					15	
Val	Ala	Val	Gly	Ile	Ser	Leu	Gly	Phe	Thr	Leu	Ser	Leu	Leu	Ser	
				20					25					30	
Val	Thr	Trp	Val	Glu	Glu	Pro	Cys	Gly	Pro	Gly	Pro	Pro	Gln	Pro	
				35					40					45	
Gly	Asp	Ser	Glu	Leu	Pro	Pro	Arg	Gly	Asn	Thr	Asn	Ala	Ala	Arg	
				50					55					60	
Arg	Pro	Asn	Ser	Val	Gln	Pro	Gly	Ala	Glu	Arg	Glu	Lys	Pro	Gly	
				65					70					75	
Ala	Gly	Glu	Gly	Ala	Gly	Glu	Asn	Trp	Glu	Pro	Arg	Val	Leu	Pro	
				80					85					90	
Tyr	His	Pro	Ala	Gln	Pro	Gly	Gln	Ala	Ala	Lys	Lys	Ala	Val	Arg	
				95					100					105	
Thr	Arg	Tyr	Ile	Ser	Thr	Glu	Leu	Gly	Ile	Arg	Gln	Arg	Leu	Leu	
				110					115					120	
Val	Ala	Val	Leu	Thr	Ser	Gln	Thr	Thr	Leu	Pro	Thr	Leu	Gly	Val	
				125					130					135	
Ala	Val	Asn	Arg	Thr	Leu	Gly	His	Arg	Leu	Glu	Arg	Val	Val	Phe	
				140					145					150	
Leu	Thr	Gly	Ala	Arg	Gly	Arg	Arg	Ala	Pro	Pro	Gly	Met	Ala	Val	
				155					160					165	
Val	Thr	Leu	Gly	Glu	Glu	Arg	Pro	Ile	Gly	His	Leu	His	Leu	Ala	
				170					175					180	
Leu	Arg	His	Leu	Leu	Glu	Gln	His	Gly	Asp	Asp	Phe	Asp	Trp	Phe	
				185					190					195	
Phe	Leu	Val	Pro	Asp	Thr	Thr	Tyr	Thr	Glu	Ala	His	Gly	Leu	Ala	
				200					205					210	
Arg	Leu	Thr	Gly	His	Leu	Ser	Leu	Ala	Ser	Ala	Ala	His	Leu	Tyr	
				215					220					225	
Leu	Gly	Arg	Pro	Gln	Asp	Phe	Ile	Gly	Gly	Glu	Pro	Thr	Pro	Gly	
				230					235					240	
Arg	Tyr	Cys	His	Gly	Gly	Phe	Gly	Val	Leu	Leu	Ser	Arg	Met	Leu	
				245					250					255	
Leu	Gln	Gln	Leu	Arg	Pro	His	Leu	Glu	Gly	Cys	Arg	Asn	Asp	Ile	
				260					265					270	

Val Ser Ala Arg	Pro Asp Glu Trp Leu	Gly Arg Cys Ile Leu	Asp
	275	280	285
Ala Thr Gly Val	Gly Cys Thr Gly Asp	His Glu Gly Val His	Tyr
	290	295	300
Ser His Leu Glu	Leu Ser Pro Gly Glu	Pro Val Gln Glu Gly	Asp
	305	310	315
Pro His Phe Arg	Ser Ala Leu Thr Ala	His Pro Val Arg Asp	Pro
	320	325	330
Val His Met Tyr	Gln Leu His Lys Ala	Phe Ala Arg Ala Glu	Leu
	335	340	345
Glu Arg Thr Tyr	Gln Glu Ile Gln Glu	Leu Gln Trp Glu Ile	Gln
	350	355	360
Asn Thr Ser His	Leu Ala Val Asp Gly	Asp Arg Ala Ala Ala	Trp
	365	370	375
Pro Val Gly Ile	Pro Ala Pro Ser Arg	Pro Ala Ser Arg Phe	Glu
	380	385	390
Val Leu Arg Trp	Asp Tyr Phe Thr Glu	Gln His Ala Phe Ser	Cys
	395	400	405
Ala Asp Gly Ser	Pro Arg Cys Pro Leu	Arg Gly Ala Asp Arg	Ala
	410	415	420
Asp Val Ala Asp	Val Leu Gly Thr Ala	Leu Glu Glu Leu Asn	Arg
	425	430	435
Arg Tyr His Pro	Ala Leu Arg Leu Gln	Lys Gln Gln Leu Val	Asn
	440	445	450
Gly Tyr Arg Arg	Phe Asp Pro Ala Arg	Gly Met Glu Tyr Thr	Leu
	455	460	465
Asp Leu Gln Leu	Glu Ala Leu Thr Pro	Gln Gly Gly Arg Arg	Pro
	470	475	480
Leu Thr Arg Arg	Val Gln Leu Leu Arg	Pro Leu Ser Arg Val	Glu
	485	490	495
Ile Leu Pro Val	Pro Tyr Val Thr Glu	Ala Ser Arg Leu Thr	Val
	500	505	510
Leu Leu Pro Leu	Ala Ala Ala Glu Arg	Asp Leu Ala Pro Gly	Phe
	515	520	525
Leu Glu Ala Phe	Ala Thr Ala Ala Leu	Glu Pro Gly Asp Ala	Ala
	530	535	540
Ala Ala Leu Thr	Leu Leu Leu Leu Tyr	Glu Pro Arg Gln Ala	Gln
	545	550	555
Arg Val Ala His	Ala Asp Val Phe Ala	Pro Val Lys Ala His	Val
	560	565	570
Ala Glu Leu Glu	Arg Arg Phe Pro Gly	Ala Arg Val Pro Trp	Leu
	575	580	585

Ser	Val	Gln	Thr	Ala	Ala	Pro	Ser	Pro	Leu	Arg	Leu	Met	Asp	Leu	590	595	600
Leu	Ser	Lys	Lys	His	Pro	Leu	Asp	Thr	Leu	Phe	Leu	Leu	Ala	Gly	605	610	615
Pro	Asp	Thr	Val	Leu	Thr	Pro	Asp	Phe	Leu	Asn	Arg	Cys	Arg	Met	620	625	630
His	Ala	Ile	Ser	Gly	Trp	Gln	Ala	Phe	Phe	Pro	Met	His	Phe	Gln	635	640	645
Ala	Phe	His	Pro	Gly	Val	Ala	Pro	Pro	Gln	Gly	Pro	Gly	Pro	Pro	650	655	660
Glu	Leu	Gly	Arg	Asp	Thr	Gly	Arg	Phe	Asp	Arg	Gln	Ala	Ala	Ser	665	670	675
Glu	Ala	Cys	Phe	Tyr	Asn	Ser	Asp	Tyr	Val	Ala	Ala	Arg	Gly	Arg	680	685	690
Leu	Ala	Ala	Ala	Ser	Glu	Gln	Glu	Glu	Glu	Leu	Leu	Glu	Ser	Leu	695	700	705
Asp	Val	Tyr	Glu	Leu	Phe	Leu	His	Phe	Ser	Ser	Leu	His	Val	Leu	710	715	720
Arg	Ala	Val	Glu	Pro	Ala	Leu	Leu	Gln	Arg	Tyr	Arg	Ala	Gln	Thr	725	730	735
Cys	Ser	Ala	Arg	Leu	Ser	Glu	Asp	Leu	Tyr	His	Arg	Cys	Leu	Gln	740	745	750
Ser	Val	Leu	Glu	Gly	Leu	Gly	Ser	Arg	Thr	Gln	Leu	Ala	Met	Leu	755	760	765
Leu	Phe	Glu	Gln	Glu	Gln	Gly	Asn	Ser	Thr						770	775	

<210> 327

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 327

tggaaggctg ccgcaacgac aatc 24

<210> 328

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 328

ctgatgtggc cgatgttctg 20

<210> 329

<211> 20

<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 329  
atggctcagt gtgcagacag 20

<210> 330  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 330  
gcatgctgct ccgtgaagta gtcc 24

<210> 331  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 331  
atgcatggga aagaaggcct gccc 24

<210> 332  
<211> 47  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 332  
tgcactggtg accacgaggg ggtgcactat agccatctgg agctgag 47

<210> 333  
<211> 1095  
<212> DNA  
<213> Homo sapiens

<400> 333  
gctctggccg gccccggcga ttggtcaccg cccgctaggg gacagccctg 50  
gcctcctctg attggcaagc gctggccacc tocccacacc ccttgccaac 100  
gctcccctag tggagaaaag gagtagctat tagccaattc ggcaggggccc 150  
gctttttaga agcttgattt cctttgaaga tgaaagacta gcggaagctc 200  
tgctcttttc cccagtgggc gagggaaactc ggggcgattg gctgggaact 250  
gtatccaccc aaatgtcacc gatttcttcc tatgcaggaa atgagcagac 300  
ccatcaataa gaaatttctc agcctggccg aaaatggttg gccccacgaa 350  
gccacgacaa ctggaggcaa agagggttgc tcaacgcccc gcctcattgg 400



aaaaccaa at cagatctggg acctatatag cgtggcggag gcggggcgat 450  
 gattgtcgcg ctgcaccca ctgcagctgc gcacagtcgc atttctttcc 500  
 ccgcccctga gaccctgcag caccatctgt catggcggct gggctgtttg 550  
 gtttgagcgc tcgccgtctt ttggcggcag cggcgacgcg agggctcccc 600  
 gccgcccgcg tccgctggga atctagcttc tccaggactg tggtcgcccc 650  
 gtccgctgtg gcgggaaagc ggccccaga accgaccaca ccgtggcaag 700  
 aggaccaga acccgaggac gaaaacttgt atgagaagaa cccagactcc 750  
 catgggttatg acaaggaccc cgttttggac gtctggaaca tgcgacttgt 800  
 cttcttcttt ggcgtctcca tcctcttgtt ccttggcagc acctttgtgg 850  
 cctatctgcc tgactacagg atgaaagagt ggtcccgcgc cgaagctgag 900  
 aggcttgtga aataccgaga ggccaatggc cttcccatca tggaatccaa 950  
 ctgcttcgac cccagcaaga tccagctgcc agaggatgag tgaccagttg 1000  
 ctaagtgggg ctcaagaagc accgccttcc ccaccccctg cctgcccattc 1050  
 tgacctcttc tcagagcacc taattaaagg ggctgaaagt ctgaa 1095

<210> 334

<211> 153

<212> PRT

<213> Homo sapiens

<400> 334

Met	Ala	Ala	Gly	Leu	Phe	Gly	Leu	Ser	Ala	Arg	Arg	Leu	Leu	Ala	1	5	10	15
Ala	Ala	Ala	Thr	Arg	Gly	Leu	Pro	Ala	Ala	Arg	Val	Arg	Trp	Glu	20	25	30	
Ser	Ser	Phe	Ser	Arg	Thr	Val	Val	Ala	Pro	Ser	Ala	Val	Ala	Gly	35	40	45	
Lys	Arg	Pro	Pro	Glu	Pro	Thr	Thr	Pro	Trp	Gln	Glu	Asp	Pro	Glu	50	55	60	
Pro	Glu	Asp	Glu	Asn	Leu	Tyr	Glu	Lys	Asn	Pro	Asp	Ser	His	Gly	65	70	75	
Tyr	Asp	Lys	Asp	Pro	Val	Leu	Asp	Val	Trp	Asn	Met	Arg	Leu	Val	80	85	90	
Phe	Phe	Phe	Gly	Val	Ser	Ile	Ile	Leu	Val	Leu	Gly	Ser	Thr	Phe	95	100	105	
Val	Ala	Tyr	Leu	Pro	Asp	Tyr	Arg	Met	Lys	Glu	Trp	Ser	Arg	Arg	110	115	120	
Glu	Ala	Glu	Arg	Leu	Val	Lys	Tyr	Arg	Glu	Ala	Asn	Gly	Leu	Pro	125	130	135	
Ile	Met	Glu	Ser	Asn	Cys	Phe	Asp	Pro	Ser	Lys	Ile	Gln	Leu	Pro	140	145	150	

Glu Asp Glu

<210> 335  
<211> 442  
<212> DNA  
<213> Homo sapiens

<400> 335  
ggcggctggg ctgtttgggt tgagcgctcg ccgtcttttg gcggcagcgg 50  
cgacgcgagg gctcccggcc gcccgcgctc gctgggaatc tagcttctcc 100  
aggactgtgg tcgccccgtc cgctgtggcg ggaaagcggc cccagaacc 150  
gaccacaccg tggcaagagg acccagaacc cgaggacgaa aacttgatg 200  
agaagaaccc agactcccat gggtatgaca aggaccccg tttggacgtc 250  
tggaacatgc gacttgtctt cttctttggc gtctccatca tcctggctct 300  
tggcagcacc tttgtggcct atctgcctga ctacaggatg aaagagtgg 350  
cccgccgcga agctgagagg cttgtgaaat accgagaggc caatggcctt 400  
cccatcatgg aatccaactg cttcgacccc agcaagatcc ag 442

<210> 336  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 336  
ctgagaccct gcagacccat ctg 23

<210> 337  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 337  
ggtgcttctt gagccccact tagc 24

<210> 338  
<211> 40  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 338  
aatctagctt ctccaggact gtggctgccc cgtccgctgt 40

<210> 339  
<211> 2162  
<212> DNA

<213> Homo sapiens

<400> 339

gcggcgggcta tgccgcttgc tctgctcgtc ctgttgctcc tggggcccg 50  
cggctggtgc cttgcagaac cccacgcga cagcctgcgg gaggaacttg 100  
tcatcacccc gctgccttcc ggggacgtag ccgccacatt ccagttccgc 150  
acgcgctggg attcggagct tcagcgggaa ggagtgtccc attacaggct 200  
ctttcccaaa gccctggggc agctgatctc caagtattct ctacggggagc 250  
tgcacctgtc attcacacaa ggcttttga ggacccgata ctgggggcca 300  
cccttcctgc aggccccatc aggtgcagag ctgtgggtct ggttccaaga 350  
cactgtcact gatgtggata aatcttgaa ggagctcagt aatgtcctct 400  
cagggatctt ctgcgctct ctcaacttca tcgactccac caacacagtc 450  
actcccactg cctccttcaa acccctgggt ctggccaatg aactgacca 500  
ctactttctg cgctatgctg tgctgccgcg ggaggtggtc tgcaccgaaa 550  
acctcacccc ctggaagaag ctcttgccct gtagttccaa ggcaggcctc 600  
tctgtgctgc tgaaggcaga tcgcttgctc cacaccagct accactccca 650  
ggcagtgcatt atccgccttg tttgcagaaa tgcacgctgt actagcatct 700  
cctgggagct gaggcagacc ctgtcagttg tatttgatgc cttcatcacg 750  
gggcagggaa agaaagactg gtccctcttc cggatgttct cccgaaccct 800  
cacggagccc tgccccctgg cttcagagag ccgagtttat gtggacatca 850  
ccacctataa ccaggacaac gagacattag aggtgcaccc acccccgacc 900  
actacatatc aggacgtcat cctaggcact cggaagacct atgccatcta 950  
tgacttgctt gacaccgcca tgatcaacaa ctctcgaaac ctcaacatcc 1000  
agctcaagtg gaagagaccc ccagagaatg agggcccccc agtgcccttc 1050  
ctgcatgccc agcgggtacgt gagtggctat gggctgcaga agggggagct 1100  
gagcacaactg ctgtacaaca cccaccata ccgggccttc ccggtgctgc 1150  
tgctggacac cgtaccctgg tatctgcggc tgtatgtgca caccctcacc 1200  
atcacctcca agggcaagga gaacaaacca agttacatcc actaccagcc 1250  
tgcccaggac cggtgcaac cccacctctt ggagatgctg attcagctgc 1300  
cggccaactc agtcaccaag gtttccatcc agtttgagcg ggcgctgctg 1350  
aagtggaccg agtacacgcc agatcctaac catggcttct atgtcagccc 1400  
atctgtcctc agcgcccttg tgcccagcat ggtagcagcc aagccagtgg 1450  
actgggaaga gagtccctc ttcaacagcc tgttcccagt ctctgatggc 1500

tctaactact ttgtgcggct ctacaaggag ccgctgctgg tgaacctgcc 1550  
gacaccggac ttcagcatgc cctacaacgt gatctgcctc acgtgcactg 1600  
tggtggccgt gtgctacggc tccttctaca atctcctcac ccgaaccttc 1650  
cacatcgagg agccccgcac aggtggcctg gccaaagcggc tggccaacct 1700  
tatccggcgc gcccgagggtg tccccccact ctgattcttg ccctttccag 1750  
cagctgcagc tgccgtttct ctctggggag gggagcccaa gggctgtttc 1800  
tgccacttgc tctcctcaga gttggctttt gaaccaaagt gccctggacc 1850  
aggtcagggc ctacagctgt gttgtccagt acaggagcca cgagccaaat 1900  
gtggcatttg aatttgaatt aacttagaaa ttcatttcct cacctgtagt 1950  
ggccacctct atattgaggt gctcaataag caaaagtggc cgggtggctgc 2000  
tgtattggac agcacagaaa aagatttcca tcaccacaga aaggtcggct 2050  
ggcagcactg gccaaagtga tgggggtgtgc tacacagtgt atgtcactgt 2100  
gtagtggatg gagtttactg tttgtggaat aaaaacggct gtttccgtgg 2150  
aaaaaaaaaa aa 2162

<210> 340  
<211> 574  
<212> PRT  
<213> Homo sapiens

<400> 340  
Met Pro Leu Ala Leu Leu Val Leu Leu Leu Leu Gly Pro Gly Gly  
1 5 10 15  
Trp Cys Leu Ala Glu Pro Pro Arg Asp Ser Leu Arg Glu Glu Leu  
20 25 30  
Val Ile Thr Pro Leu Pro Ser Gly Asp Val Ala Ala Thr Phe Gln  
35 40 45  
Phe Arg Thr Arg Trp Asp Ser Glu Leu Gln Arg Glu Gly Val Ser  
50 55 60  
His Tyr Arg Leu Phe Pro Lys Ala Leu Gly Gln Leu Ile Ser Lys  
65 70 75  
Tyr Ser Leu Arg Glu Leu His Leu Ser Phe Thr Gln Gly Phe Trp  
80 85 90  
Arg Thr Arg Tyr Trp Gly Pro Pro Phe Leu Gln Ala Pro Ser Gly  
95 100 105  
Ala Glu Leu Trp Val Trp Phe Gln Asp Thr Val Thr Asp Val Asp  
110 115 120  
Lys Ser Trp Lys Glu Leu Ser Asn Val Leu Ser Gly Ile Phe Cys  
125 130 135  
Ala Ser Leu Asn Phe Ile Asp Ser Thr Asn Thr Val Thr Pro Thr  
140 145 150

Ala	Ser	Phe	Lys	Pro	Leu	Gly	Leu	Ala	Asn	Asp	Thr	Asp	His	Tyr	155	160	165
Phe	Leu	Arg	Tyr	Ala	Val	Leu	Pro	Arg	Glu	Val	Val	Cys	Thr	Glu	170	175	180
Asn	Leu	Thr	Pro	Trp	Lys	Lys	Leu	Leu	Pro	Cys	Ser	Ser	Lys	Ala	185	190	195
Gly	Leu	Ser	Val	Leu	Leu	Lys	Ala	Asp	Arg	Leu	Phe	His	Thr	Ser	200	205	210
Tyr	His	Ser	Gln	Ala	Val	His	Ile	Arg	Pro	Val	Cys	Arg	Asn	Ala	215	220	225
Arg	Cys	Thr	Ser	Ile	Ser	Trp	Glu	Leu	Arg	Gln	Thr	Leu	Ser	Val	230	235	240
Val	Phe	Asp	Ala	Phe	Ile	Thr	Gly	Gln	Gly	Lys	Lys	Asp	Trp	Ser	245	250	255
Leu	Phe	Arg	Met	Phe	Ser	Arg	Thr	Leu	Thr	Glu	Pro	Cys	Pro	Leu	260	265	270
Ala	Ser	Glu	Ser	Arg	Val	Tyr	Val	Asp	Ile	Thr	Thr	Tyr	Asn	Gln	275	280	285
Asp	Asn	Glu	Thr	Leu	Glu	Val	His	Pro	Pro	Pro	Thr	Thr	Thr	Tyr	290	295	300
Gln	Asp	Val	Ile	Leu	Gly	Thr	Arg	Lys	Thr	Tyr	Ala	Ile	Tyr	Asp	305	310	315
Leu	Leu	Asp	Thr	Ala	Met	Ile	Asn	Asn	Ser	Arg	Asn	Leu	Asn	Ile	320	325	330
Gln	Leu	Lys	Trp	Lys	Arg	Pro	Pro	Glu	Asn	Glu	Ala	Pro	Pro	Val	335	340	345
Pro	Phe	Leu	His	Ala	Gln	Arg	Tyr	Val	Ser	Gly	Tyr	Gly	Leu	Gln	350	355	360
Lys	Gly	Glu	Leu	Ser	Thr	Leu	Leu	Tyr	Asn	Thr	His	Pro	Tyr	Arg	365	370	375
Ala	Phe	Pro	Val	Leu	Leu	Leu	Asp	Thr	Val	Pro	Trp	Tyr	Leu	Arg	380	385	390
Leu	Tyr	Val	His	Thr	Leu	Thr	Ile	Thr	Ser	Lys	Gly	Lys	Glu	Asn	395	400	405
Lys	Pro	Ser	Tyr	Ile	His	Tyr	Gln	Pro	Ala	Gln	Asp	Arg	Leu	Gln	410	415	420
Pro	His	Leu	Leu	Glu	Met	Leu	Ile	Gln	Leu	Pro	Ala	Asn	Ser	Val	425	430	435
Thr	Lys	Val	Ser	Ile	Gln	Phe	Glu	Arg	Ala	Leu	Leu	Lys	Trp	Thr	440	445	450
Glu	Tyr	Thr	Pro	Asp	Pro	Asn	His	Gly	Phe	Tyr	Val	Ser	Pro	Ser	455	460	465

Val	Leu	Ser	Ala	Leu	Val	Pro	Ser	Met	Val	Ala	Ala	Lys	Pro	Val	
				470					475					480	
Asp	Trp	Glu	Glu	Ser	Pro	Leu	Phe	Asn	Ser	Leu	Phe	Pro	Val	Ser	
				485					490					495	
Asp	Gly	Ser	Asn	Tyr	Phe	Val	Arg	Leu	Tyr	Thr	Glu	Pro	Leu	Leu	
				500					505					510	
Val	Asn	Leu	Pro	Thr	Pro	Asp	Phe	Ser	Met	Pro	Tyr	Asn	Val	Ile	
				515					520					525	
Cys	Leu	Thr	Cys	Thr	Val	Val	Ala	Val	Cys	Tyr	Gly	Ser	Phe	Tyr	
				530					535					540	
Asn	Leu	Leu	Thr	Arg	Thr	Phe	His	Ile	Glu	Glu	Pro	Arg	Thr	Gly	
				545					550					555	
Gly	Leu	Ala	Lys	Arg	Leu	Ala	Asn	Leu	Ile	Arg	Arg	Ala	Arg	Gly	
				560					565					570	

Val Pro Pro Leu

<210> 341  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 341  
 tggacaccgt accctggtat ctgc 24

<210> 342  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <221> Artificial Sequence  
 <222> 1-24  
 <223> Synthetic oligonucleotide probe

<400> 342  
 ccaactctga ggagagcaag tggc 24

<210> 343  
 <211> 44  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 343  
 tgtatgtgca caccctcacc atcacctcca agggcaagga gaac 44

<210> 344  
 <211> 762  
 <212> DNA  
 <213> Homo sapiens

<400> 344  
 caacatgggg tccagcagct tcttggtcct catggtgtct ctcggttcttg 50  
 tgaccttggt ggctgtggaa ggagttaaag agggatataga gaaagcaggg 100  
 gtttgcccag ctgacaacgt acgctgcttc aagtccgatc ctccccagtg 150  
 tcacacagac caggactgtc tgggggaaag gaagtgttgt tacctgcact 200  
 gtgggttcaa gtgtgtgatt cctgtgaagg aactggaaga aggaggaaac 250  
 aaggatgaag atgtgtcaag gccataccct gagccaggat gggaggccaa 300  
 gtgtccaggc tctcctcta ccagggtgcc tcagaaatga tgctgggtcc 350  
 tttctacctc tgggggtcac tctcacttgg cacctgcccc tgagggtcct 400  
 gagacttgga atatggaaga agcaataccc aaccccacca aagaaaacct 450  
 gagcttgaag tccttttccc caaaaagagg gaagagtcac aaaaagtcca 500  
 gaccccaggg acggtacttt ccctctctac ctggtgctcc tccctaattgc 550  
 tcatgaatgg acccctcatg aatgaaacca gtgcccttat aagagacccc 600  
 aaagagctgc cttgcccttc tgcaatgtgt gatcacagct agaaggcact 650  
 gtcagagaag agaaactggt cctcaccaga tgctgaatct gctgggtgcct 700  
 tgatcttgga cttcccagcc tctagaactg taagaaataa atatttgctg 750  
 ttataatcc aa 762

<210> 345  
 <211> 111  
 <212> PRT  
 <213> Homo sapiens

<400> 345  
 Met Gly Ser Ser Ser Phe Leu Val Leu Met Val Ser Leu Val Leu  
 1 5 10 15  
 Val Thr Leu Val Ala Val Glu Gly Val Lys Glu Gly Ile Glu Lys  
 20 25 30  
 Ala Gly Val Cys Pro Ala Asp Asn Val Arg Cys Phe Lys Ser Asp  
 35 40 45  
 Pro Pro Gln Cys His Thr Asp Gln Asp Cys Leu Gly Glu Arg Lys  
 50 55 60  
 Cys Cys Tyr Leu His Cys Gly Phe Lys Cys Val Ile Pro Val Lys  
 65 70 75  
 Glu Leu Glu Glu Gly Gly Asn Lys Asp Glu Asp Val Ser Arg Pro  
 80 85 90  
 Tyr Pro Glu Pro Gly Trp Glu Ala Lys Cys Pro Gly Ser Ser Ser  
 95 100 105  
 Thr Arg Cys Pro Gln Lys  
 110

<210> 346  
<211> 2528  
<212> DNA  
<213> Homo sapiens

<400> 346  
aaactcagca cttgccggag tggctcattg ttaagacaaa ggggtgtgcac 50  
ttcctggcca ggaaacctga gcggtgagac tcccagctgc ctacatcaag 100  
gccccaggac atgcagaacc ttcctctaga acccgaccca ccaccatgag 150  
gtcctgcctg tggagatgca ggcacctgag ccaaggcgtc cagtggtcct 200  
tgcttctggc tgtcctggtc ttctttctct tcgccttgcc ctcttttatt 250  
aaggagcctc aaacaaagcc ttccaggcat caacgcacag agaacattaa 300  
agaaaggtct ctacagtccc tggcaaagcc taagtcccag gcacccacaa 350  
gggcgaggag gacaaccatc tatgcagagc cagcgccaga gaacaatgcc 400  
ctcaacacac aaaccagcc caaggcccac accaccggag acagaggaaa 450  
ggaggccaac caggcaccgc cggaggagca ggacaaggtg cccacacacag 500  
cacagagggc agcatggaag agcccagaaa aagagaaaac catggtgaac 550  
acactgtcac ccagagggca agatgcaggg atggcctctg gcaggacaga 600  
ggcacaatca tggaagagcc aggacacaaa gacgacccaa ggaaatgggg 650  
gccagaccag gaagctgacg gcctccagga cgggtgtcaga gaagcaccag 700  
ggcaaagcgg caaccacagc caagacgctc attcccaaaa gtcagcacag 750  
aatgctggct cccacaggag cagtgtcaac aaggacgaga cagaaaggag 800  
tgaccacagc agtcatccca cctaaggaga agaaacctca ggccacccca 850  
ccccctgccc ctttcagag cccacgacg cagagaaacc aaagactgaa 900  
ggccgccaac ttcaaactg agcctcggtg ggattttgag gaaaaatata 950  
gcttcgaaat aggaggcctt cagacgactt gccttgactc tgtgaagatc 1000  
aaagcctcca agtcgctgtg gctccagaaa ctctttctgc ccaacctcac 1050  
tctcttctg gactccagac acttcaacca gagtgagtgg gaccgcctgg 1100  
aacactttgc accacccttt ggcttcatgg agctcaacta ctcttggtg 1150  
cagaaggtcg tgacacgctt ccctccagtg cccagcagc agctgtcct 1200  
ggccagcctc cccgctggga gcctccggtg catcacctgt gccgtggtgg 1250  
gcaacggggg catcctgaac aactcccaca tgggccagga gatagacagt 1300  
cacgactacg tgttccgatt gagoggagct ctcatataag gctacgaaca 1350  
ggatgtgggg actcggacat ctttctacgg ctttaccgcc ttctccctga 1400  
cccagtcaat ccttatattg ggcaatcggg gtttcaagaa cgtgcctctt 1450



gggaaggacg tccgctactt gcacttcctg gaaggcaccc gggactatga 1500  
 gtggctggaa gcactgctta tgaatcagac ggtgatgtca aaaaaccttt 1550  
 tctgggttcag gcacagaccc caggaagctt ttcgggaagc cctgcacatg 1600  
 gacaggtacc tgttgotgca cccagacttt ctccgataca tgaagaacag 1650  
 gttttctgagg tctaagaccc tggatgggtgc ccactggagg atataccgcc 1700  
 ccaccactgg ggccctcctg ctgctcactg cccttcagct ctgtgaccag 1750  
 gtgagtgttt atggcttcat cactgagggc catgagcgtt tttctgatca 1800  
 ctactatgat acatcatgga agcggctgat cttttacata aaccatgact 1850  
 tcaagctgga gagagaagtc tggaagcggc tacacgatga agggataatc 1900  
 cggotgtacc agcgtcctgg tcccggaaact gccaaagcca agaactgacc 1950  
 gggggccaggg ctgccatggt ctccctgcct gctccaaggc acaggataca 2000  
 gtgggaatct tgagactctt tggccatttc ccatgggtca gactaagctc 2050  
 caagcccttc aggagttcca agggaacact tgaaccatgg acaagactct 2100  
 ctcaagatgg caaatggcta attgaggttc tgaagttctt cagtacattg 2150  
 ctgtaggtcc tgaggccagg gatttttaat taaatggggt gatgggtggc 2200  
 caataccaca attcctgctg aaaaacactc ttccagtcca aaagcttctt 2250  
 gatacagaaa aaagagcctg gatttacaga aacatataga tctggtttga 2300  
 attccagatc gagtttacag ttgtgaaatc ttgaaggtat tacttaactt 2350  
 cactacagat tgtctagaag acctttctag gagttatctg attctagaag 2400  
 ggtctatact tgtccttgctc ttttaagctat ttgacaactc tacgtgttgt 2450  
 agaaaactga taataatata aatgattgtt gtccatggaa agggcaataa 2500  
 attttctaca gtgaaaaaaaa aaaaaaaaa 2528

<210> 347

<211> 600

<212> PRT

<213> Homo sapiens

<400> 347

Met	Arg	Ser	Cys	Leu	Trp	Arg	Cys	Arg	His	Leu	Ser	Gln	Gly	Val
1				5					10					15

Gln	Trp	Ser	Leu	Leu	Leu	Ala	Val	Leu	Val	Phe	Phe	Leu	Phe	Ala
			20						25					30

Leu	Pro	Ser	Phe	Ile	Lys	Glu	Pro	Gln	Thr	Lys	Pro	Ser	Arg	His
			35						40					45

Gln	Arg	Thr	Glu	Asn	Ile	Lys	Glu	Arg	Ser	Leu	Gln	Ser	Leu	Ala
			50						55					60

Lys	Pro	Lys	Ser	Gln	Ala	Pro	Thr	Arg	Ala	Arg	Arg	Thr	Thr	Ile
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

65					70					75				
Tyr	Ala	Glu	Pro	Ala	Pro	Glu	Asn	Asn	Ala	Leu	Asn	Thr	Gln	Thr
				80					85					90
Gln	Pro	Lys	Ala	His	Thr	Thr	Gly	Asp	Arg	Gly	Lys	Glu	Ala	Asn
				95					100					105
Gln	Ala	Pro	Pro	Glu	Glu	Gln	Asp	Lys	Val	Pro	His	Thr	Ala	Gln
				110					115					120
Arg	Ala	Ala	Trp	Lys	Ser	Pro	Glu	Lys	Glu	Lys	Thr	Met	Val	Asn
				125					130					135
Thr	Leu	Ser	Pro	Arg	Gly	Gln	Asp	Ala	Gly	Met	Ala	Ser	Gly	Arg
				140					145					150
Thr	Glu	Ala	Gln	Ser	Trp	Lys	Ser	Gln	Asp	Thr	Lys	Thr	Thr	Gln
				155					160					165
Gly	Asn	Gly	Gly	Gln	Thr	Arg	Lys	Leu	Thr	Ala	Ser	Arg	Thr	Val
				170					175					180
Ser	Glu	Lys	His	Gln	Gly	Lys	Ala	Ala	Thr	Thr	Ala	Lys	Thr	Leu
				185					190					195
Ile	Pro	Lys	Ser	Gln	His	Arg	Met	Leu	Ala	Pro	Thr	Gly	Ala	Val
				200					205					210
Ser	Thr	Arg	Thr	Arg	Gln	Lys	Gly	Val	Thr	Thr	Ala	Val	Ile	Pro
				215					220					225
Pro	Lys	Glu	Lys	Lys	Pro	Gln	Ala	Thr	Pro	Pro	Pro	Ala	Pro	Phe
				230					235					240
Gln	Ser	Pro	Thr	Thr	Gln	Arg	Asn	Gln	Arg	Leu	Lys	Ala	Ala	Asn
				245					250					255
Phe	Lys	Ser	Glu	Pro	Arg	Trp	Asp	Phe	Glu	Glu	Lys	Tyr	Ser	Phe
				260					265					270
Glu	Ile	Gly	Gly	Leu	Gln	Thr	Thr	Cys	Pro	Asp	Ser	Val	Lys	Ile
				275					280					285
Lys	Ala	Ser	Lys	Ser	Leu	Trp	Leu	Gln	Lys	Leu	Phe	Leu	Pro	Asn
				290					295					300
Leu	Thr	Leu	Phe	Leu	Asp	Ser	Arg	His	Phe	Asn	Gln	Ser	Glu	Trp
				305					310					315
Asp	Arg	Leu	Glu	His	Phe	Ala	Pro	Pro	Phe	Gly	Phe	Met	Glu	Leu
				320					325					330
Asn	Tyr	Ser	Leu	Val	Gln	Lys	Val	Val	Thr	Arg	Phe	Pro	Pro	Val
				335					340					345
Pro	Gln	Gln	Gln	Leu	Leu	Leu	Ala	Ser	Leu	Pro	Ala	Gly	Ser	Leu
				350					355					360
Arg	Cys	Ile	Thr	Cys	Ala	Val	Val	Gly	Asn	Gly	Gly	Ile	Leu	Asn
				365					370					375
Asn	Ser	His	Met	Gly	Gln	Glu	Ile	Asp	Ser	His	Asp	Tyr	Val	Phe

380	385	390
Arg Leu Ser Gly Ala Leu Ile Lys Gly Tyr Glu Gln Asp Val Gly 395 400 405		
Thr Arg Thr Ser Phe Tyr Gly Phe Thr Ala Phe Ser Leu Thr Gln 410 415 420		
Ser Leu Leu Ile Leu Gly Asn Arg Gly Phe Lys Asn Val Pro Leu 425 430 435		
Gly Lys Asp Val Arg Tyr Leu His Phe Leu Glu Gly Thr Arg Asp 440 445 450		
Tyr Glu Trp Leu Glu Ala Leu Leu Met Asn Gln Thr Val Met Ser 455 460 465		
Lys Asn Leu Phe Trp Phe Arg His Arg Pro Gln Glu Ala Phe Arg 470 475 480		
Glu Ala Leu His Met Asp Arg Tyr Leu Leu Leu His Pro Asp Phe 485 490 495		
Leu Arg Tyr Met Lys Asn Arg Phe Leu Arg Ser Lys Thr Leu Asp 500 505 510		
Gly Ala His Trp Arg Ile Tyr Arg Pro Thr Thr Gly Ala Leu Leu 515 520 525		
Leu Leu Thr Ala Leu Gln Leu Cys Asp Gln Val Ser Ala Tyr Gly 530 535 540		
Phe Ile Thr Glu Gly His Glu Arg Phe Ser Asp His Tyr Tyr Asp 545 550 555		
Thr Ser Trp Lys Arg Leu Ile Phe Tyr Ile Asn His Asp Phe Lys 560 565 570		
Leu Glu Arg Glu Val Trp Lys Arg Leu His Asp Glu Gly Ile Ile 575 580 585		
Arg Leu Tyr Gln Arg Pro Gly Pro Gly Thr Ala Lys Ala Lys Asn 590 595 600		

<210> 348  
 <211> 496  
 <212> DNA  
 <213> Homo sapiens

<400> 348  
 cgatgcgcgg acccgggcac cccctcctcc tggggctgct gctgggtgctg 50  
 gggccttcgc cggagcagcg agtggaaatt gttcctcgag atctgaggat 100  
 gaaggacaag tttctaaaac accttacagg ccctctttat tttagtccaa 150  
 agtgcagcaa acacttccat agactttatc acaacaccag agactgcacc 200  
 attcctgcat actataaaag atgcgccagg cttcttacct ggctggctgt 250  
 cagtccagtg tgcattggagg ataagtgagc agaccgtaca ggagcagcac 300  
 accaggagcc atgagaagtg ccttggaaac caacagggaa acagaactat 350

ctttatacac atccccctcat ggacaagaga tttatttttg cagacagact 400  
 cttccataag tcctttgagt tttgtatggt gttgacagtt tgcagatata 450  
 tattcgataa atcagtgtac ttgacagtgt tatctgtcac ttattt 496

<210> 349  
 <211> 91  
 <212> PRT  
 <213> Homo sapiens

<400> 349  
 Met Arg Gly Pro Gly His Pro Leu Leu Leu Gly Leu Leu Leu Val  
 1 5 10 15  
 Leu Gly Pro Ser Pro Glu Gln Arg Val Glu Ile Val Pro Arg Asp  
 20 25 30  
 Leu Arg Met Lys Asp Lys Phe Leu Lys His Leu Thr Gly Pro Leu  
 35 40 45  
 Tyr Phe Ser Pro Lys Cys Ser Lys His Phe His Arg Leu Tyr His  
 50 55 60  
 Asn Thr Arg Asp Cys Thr Ile Pro Ala Tyr Tyr Lys Arg Cys Ala  
 65 70 75  
 Arg Leu Leu Thr Arg Leu Ala Val Ser Pro Val Cys Met Glu Asp  
 80 85 90

Lys

<210> 350  
 <211> 1141  
 <212> DNA  
 <213> Homo sapiens

<400> 350  
 gggctggggc ccgccgcagc tccagctggc cggcttggtc ctgcgggtccc 50  
 ttctctggga ggcccgaccc cggccgcgcc cagccccccac catgccaccc 100  
 gcggggctcc gccgggccgc gccgctcacc gcaatcgctc tgttggtgct 150  
 gggggctccc ctggtgctgg ccggcgagga ctgcctgtgg tacctggacc 200  
 ggaatggctc ctggcatccg gggtttaact gcgagttctt caccttctgc 250  
 tgcgggacct gctaccatcg gtactgctgc agggacctga ccttgcttat 300  
 caccgagagg cagcagaagc actgcctggc cttcagcccc aagaccatag 350  
 caggcatcgc ctcagctgtg atcctctttg ttgctgtggt tgccaccacc 400  
 atctgctgct tcctctgttc ctgttgctac ctgtaccgcc ggcgccagca 450  
 gctccagagc ccatttgaag gccaggagat tccaatgaca ggcattcccag 500  
 tgcagccagt atacccatac cccaggacc ccaaagctgg ccctgcaccc 550  
 ccacagcctg gcttcatgta ccacctagt ggtcctgctc cccaatatcc 600

actctaccca gctgggcccc cagtctacaa ccctgcagct cctcctccct 650  
 atatgccacc acagccctct taccgggag cctgaggaac cagccatgtc 700  
 tctgctgccc cttcagtgat gccaaccttg ggagatgccc tcctcctgta 750  
 cctgcatctg gtcctggggg tggcaggagt cctccagcca ccaggcccca 800  
 gaccaagcca agccctgggc cctactgggg acagagcccc aggggaagtgg 850  
 aacaggagct gaactagaac tatgaggggt tggggggagg gcttggaatt 900  
 atgggctatt ttactgggg gcaaggagg gagatgacag cctgggtcac 950  
 agtgcctgtt ttcaaatagt ccctctgctc ccaagatccc agccaggaag 1000  
 gctggggccc tactgtttgt cccctctggg ctgggggtggg gggagggagg 1050  
 aggttccgtc agcagctggc agtagccctc ctctctggct gcccactgg 1100  
 ccacatctct ggctgctag attaaagctg taaagacaaa a 1141

<210> 351

<211> 197

<212> PRT

<213> Homo sapiens

<400> 351

Met	Pro	Pro	Ala	Gly	Leu	Arg	Arg	Ala	Ala	Pro	Leu	Thr	Ala	Ile	1	5	10	15
Ala	Leu	Leu	Val	Leu	Gly	Ala	Pro	Leu	Val	Leu	Ala	Gly	Glu	Asp	20	25	30	
Cys	Leu	Trp	Tyr	Leu	Asp	Arg	Asn	Gly	Ser	Trp	His	Pro	Gly	Phe	35	40	45	
Asn	Cys	Glu	Phe	Phe	Thr	Phe	Cys	Cys	Gly	Thr	Cys	Tyr	His	Arg	50	55	60	
Tyr	Cys	Cys	Arg	Asp	Leu	Thr	Leu	Leu	Ile	Thr	Glu	Arg	Gln	Gln	65	70	75	
Lys	His	Cys	Leu	Ala	Phe	Ser	Pro	Lys	Thr	Ile	Ala	Gly	Ile	Ala	80	85	90	
Ser	Ala	Val	Ile	Leu	Phe	Val	Ala	Val	Val	Ala	Thr	Thr	Ile	Cys	95	100	105	
Cys	Phe	Leu	Cys	Ser	Cys	Cys	Tyr	Leu	Tyr	Arg	Arg	Arg	Gln	Gln	110	115	120	
Leu	Gln	Ser	Pro	Phe	Glu	Gly	Gln	Glu	Ile	Pro	Met	Thr	Gly	Ile	125	130	135	
Pro	Val	Gln	Pro	Val	Tyr	Pro	Tyr	Pro	Gln	Asp	Pro	Lys	Ala	Gly	140	145	150	
Pro	Ala	Pro	Pro	Gln	Pro	Gly	Phe	Met	Tyr	Pro	Pro	Ser	Gly	Pro	155	160	165	
Ala	Pro	Gln	Tyr	Pro	Leu	Tyr	Pro	Ala	Gly	Pro	Pro	Val	Tyr	Asn	170	175	180	

Pro Ala Ala Pro Pro Pro Tyr Met Pro Pro Gln Pro Ser Tyr Pro  
 185 190 195

Gly Ala

<210> 352  
 <211> 3226  
 <212> DNA  
 <213> Homo sapiens

<400> 352  
 ggggggagcta ggccggcggc agtgggtggtg gcggcggcgc aagggtgagg 50  
 gcggccccag aaccccaggt aggtagagca agaagatggt gtttctgccc 100  
 ctcaaattggt cccttgcaac catgtcattt ctactttcct cactgttggc 150  
 tctcttaact gtgtccactc cttcatggtg tcagagcact gaagcatctc 200  
 caaaacgtag tgatgggaca ccatttcctt ggaataaaat acgacttcct 250  
 gagtacgtca tcccagttca ttatgatctc ttgatccatg caaaccttac 300  
 cacgctgacc ttctggggaa ccacgaaagt agaaatcaca gccagtcagc 350  
 ccaccagcac catcatcctg catagtcacc acctgcagat atctagggcc 400  
 accctcagga agggagctgg agagaggcta tcggaagaac ccctgcaggt 450  
 cctggaacac cccctcagg agcaaattgc actgctggct cccgagcccc 500  
 tccttgtcgg gctcccgta acagttgtca ttactatgc tggcaatctt 550  
 tcggagactt tccacggatt ttacaaaagc acctacagaa ccaaggaagg 600  
 ggaactgagg atactagcat caacacaatt tgaaccact gcagctagaa 650  
 tggcctttcc ctgctttgat gaacctgcct tcaaagcaag tttctcaatc 700  
 aaaattagaa gagagccaag gcacctagcc atctccaata tgccattggt 750  
 gaaatctgtg actgttgctg aaggactcat agaagaccat tttgatgtca 800  
 ctgtgaagat gagcacctat ctggtggcct tcatcatttc agattttgag 850  
 tctgtcagca agataaccaa gaggtagtc aaggtttctg tttatgctgt 900  
 gccagacaag ataaatcaag cagattatgc actggatgct gcggtgactc 950  
 ttctagaatt ttatgaggat tatttcagca taccgtatcc cctacccaaa 1000  
 caagatcttg ctgctattcc cgactttcag tctgggtgcta tggaaaactg 1050  
 gggactgaca acatatagag aatctgctct gttgtttgat gcagaaaagt 1100  
 cttctgcac aagtaagctt ggcacacag tgactgtggc ccatgaactg 1150  
 gccaccagt ggtttgggaa cctgggtcact atggaatggt ggaatgatct 1200  
 ttggctaaat gaaggatttg ccaaatttat ggagtttgtg tctgtcagtg 1250  
 tgacccatcc tgaactgaaa gttggagatt atttctttgg caaatgtttt 1300

gacgcaatgg aggtagatgc tttaaattcc tcacacccctg tgtctacacc 1350  
tgtggaaaat cctgctcaga tccgggagat gtttgatgat gtttcttatg 1400  
ataagggagc ttgtattctg aatatgctaa gggagtatct tagcgctgac 1450  
gcatttaaaa gtggtattgt acagtatctc cagaagcata gctataaaaa 1500  
tacaaaaaac gaggacctgt gggatagtat ggcaagtatt tgccctacag 1550  
atgggtgtaa agggatggat ggcttttgct ctagaagtca acattcatct 1600  
tcctcctcac attggcatca ggaaggggtg gatgtgaaaa ccatgatgaa 1650  
cacttgga ca ctgcagagg gttttccct aataaccatc acagtgagg 1700  
ggaggaatgt acacatgaag caagagcact acatgaagg ctctgacggc 1750  
gccccggaca ctgggtacct gtggcatgtt ccattgacat tcaccaccag 1800  
caaatccaac atgggtccatc gatttttgct aaaaacaaaa acagatgtgc 1850  
tcctcctccc agaagagggtg gaatggatca aatttaattg gggcatgaat 1900  
ggctattaca ttgtgcatta cgaggatgat ggatgggact ctttgactgg 1950  
ccttttaaaa ggaacacaca cagcagtcag cagtaatgat cgggcaagtc 2000  
tcattaacaa tgcatttcag ctgcgcagca ttgggaagct gtccattgaa 2050  
aaggccttgg atttatccct gtacttgaaa catgaaactg aaattatgcc 2100  
cgtgtttcaa gggttgatg agctgattcc tatgtataag ttaatggaga 2150  
aaagagatat gaatgaagt gaaactcaat tcaaggcctt cctcatcagg 2200  
ctgctaaggg acctcattga taagcagaca tggacagacg agggctcagt 2250  
ctcagagcaa atgctgcgga gtgaactact actcctcgcc tgtgtgcaca 2300  
actatcagcc gtgcgtacag agggcagaag gctatttcag aaagtggag 2350  
gaatccaatg gaaacttgag cctgcctgtc gacgtgacct tggcagtgtt 2400  
tgctgtgggg gccagagca cagaaggctg ggattttott tatagtaa 2450  
atcagttttc tttgtccagt actgagaaaa gccaaattga atttgccctc 2500  
tgcagaacc aaaataagga aaagcttcaa tggctactag atgaaagott 2550  
taaggagat aaaataaaaa ctcaggagt tccacaaatt cttacactca 2600  
ttggcaggaa cccagtagga taccactgg cctggcaatt tctgaggaaa 2650  
aactggaaca aacttgata aaagtgtgaa cttggctcat cttccatagc 2700  
ccacatggta atgggtacaa caaatcaatt ctccacaaga acacggcttg 2750  
aagaggtaaa aggattcttc agctctttga aagaaaatgg ttctcagctc 2800  
cgttgtgtcc aacagacaat tgaaaccatt gaagaaaaca tcggttgat 2850  
ggataagaat ttgataaaaa tcagagtgtg gctgcaaagt gaaaagcttg 2900

aacgtatgta aaaattcctc ccttgcccgg ttcctgttat ctctaatacac 2950  
 caacattttg ttgagtgtat tttcaaacta gagatggctg ttttggctcc 3000  
 aactggagat acttttttcc cttcaactca ttttttgact atccctgtga 3050  
 aaagaatagc tgttagtttt tcatgaatgg gctttttcat gaatgggcta 3100  
 tgcgtaccat gtgttttgtt catcacaggt gttgccctgc aacgtaaacc 3150  
 caagtgttgg gttccctgcc acagaagaat aaagtacctt attcttctca 3200  
 aaaaaaaaaa aaaaaaaaaa aaaaaa 3226

<210> 353  
 <211> 941  
 <212> PRT  
 <213> Homo sapiens

<400> 353  
 Met Val Phe Leu Pro Leu Lys Trp Ser Leu Ala Thr Met Ser Phe  
 1 5 10 15  
 Leu Leu Ser Ser Leu Leu Ala Leu Leu Thr Val Ser Thr Pro Ser  
 20 25 30  
 Trp Cys Gln Ser Thr Glu Ala Ser Pro Lys Arg Ser Asp Gly Thr  
 35 40 45  
 Pro Phe Pro Trp Asn Lys Ile Arg Leu Pro Glu Tyr Val Ile Pro  
 50 55 60  
 Val His Tyr Asp Leu Leu Ile His Ala Asn Leu Thr Thr Leu Thr  
 65 70 75  
 Phe Trp Gly Thr Thr Lys Val Glu Ile Thr Ala Ser Gln Pro Thr  
 80 85 90  
 Ser Thr Ile Ile Leu His Ser His His Leu Gln Ile Ser Arg Ala  
 95 100 105  
 Thr Leu Arg Lys Gly Ala Gly Glu Arg Leu Ser Glu Glu Pro Leu  
 110 115 120  
 Gln Val Leu Glu His Pro Pro Gln Glu Gln Ile Ala Leu Leu Ala  
 125 130 135  
 Pro Glu Pro Leu Leu Val Gly Leu Pro Tyr Thr Val Val Ile His  
 140 145 150  
 Tyr Ala Gly Asn Leu Ser Glu Thr Phe His Gly Phe Tyr Lys Ser  
 155 160 165  
 Thr Tyr Arg Thr Lys Glu Gly Glu Leu Arg Ile Leu Ala Ser Thr  
 170 175 180  
 Gln Phe Glu Pro Thr Ala Ala Arg Met Ala Phe Pro Cys Phe Asp  
 185 190 195  
 Glu Pro Ala Phe Lys Ala Ser Phe Ser Ile Lys Ile Arg Arg Glu  
 200 205 210  
 Pro Arg His Leu Ala Ile Ser Asn Met Pro Leu Val Lys Ser Val



215					220					225				
Thr	Val	Ala	Glu	Gly	Leu	Ile	Glu	Asp	His	Phe	Asp	Val	Thr	Val
				230					235					240
Lys	Met	Ser	Thr	Tyr	Leu	Val	Ala	Phe	Ile	Ile	Ser	Asp	Phe	Glu
				245					250					255
Ser	Val	Ser	Lys	Ile	Thr	Lys	Ser	Gly	Val	Lys	Val	Ser	Val	Tyr
				260					265					270
Ala	Val	Pro	Asp	Lys	Ile	Asn	Gln	Ala	Asp	Tyr	Ala	Leu	Asp	Ala
				275					280					285
Ala	Val	Thr	Leu	Leu	Glu	Phe	Tyr	Glu	Asp	Tyr	Phe	Ser	Ile	Pro
				290					295					300
Tyr	Pro	Leu	Pro	Lys	Gln	Asp	Leu	Ala	Ala	Ile	Pro	Asp	Phe	Gln
				305					310					315
Ser	Gly	Ala	Met	Glu	Asn	Trp	Gly	Leu	Thr	Thr	Tyr	Arg	Glu	Ser
				320					325					330
Ala	Leu	Leu	Phe	Asp	Ala	Glu	Lys	Ser	Ser	Ala	Ser	Ser	Lys	Leu
				335					340					345
Gly	Ile	Thr	Val	Thr	Val	Ala	His	Glu	Leu	Ala	His	Gln	Trp	Phe
				350					355					360
Gly	Asn	Leu	Val	Thr	Met	Glu	Trp	Trp	Asn	Asp	Leu	Trp	Leu	Asn
				365					370					375
Glu	Gly	Phe	Ala	Lys	Phe	Met	Glu	Phe	Val	Ser	Val	Ser	Val	Thr
				380					385					390
His	Pro	Glu	Leu	Lys	Val	Gly	Asp	Tyr	Phe	Phe	Gly	Lys	Cys	Phe
				395					400					405
Asp	Ala	Met	Glu	Val	Asp	Ala	Leu	Asn	Ser	Ser	His	Pro	Val	Ser
				410					415					420
Thr	Pro	Val	Glu	Asn	Pro	Ala	Gln	Ile	Arg	Glu	Met	Phe	Asp	Asp
				425					430					435
Val	Ser	Tyr	Asp	Lys	Gly	Ala	Cys	Ile	Leu	Asn	Met	Leu	Arg	Glu
				440					445					450
Tyr	Leu	Ser	Ala	Asp	Ala	Phe	Lys	Ser	Gly	Ile	Val	Gln	Tyr	Leu
				455					460					465
Gln	Lys	His	Ser	Tyr	Lys	Asn	Thr	Lys	Asn	Glu	Asp	Leu	Trp	Asp
				470					475					480
Ser	Met	Ala	Ser	Ile	Cys	Pro	Thr	Asp	Gly	Val	Lys	Gly	Met	Asp
				485					490					495
Gly	Phe	Cys	Ser	Arg	Ser	Gln	His	Ser	Ser	Ser	Ser	Ser	His	Trp
				500					505					510
His	Gln	Glu	Gly	Val	Asp	Val	Lys	Thr	Met	Met	Asn	Thr	Trp	Thr
				515					520					525
Leu	Gln	Arg	Gly	Phe	Pro	Leu	Ile	Thr	Ile	Thr	Val	Arg	Gly	Arg

530					535					540				
Asn	Val	His	Met	Lys	Gln	Glu	His	Tyr	Met	Lys	Gly	Ser	Asp	Gly
				545					550					555
Ala	Pro	Asp	Thr	Gly	Tyr	Leu	Trp	His	Val	Pro	Leu	Thr	Phe	Ile
				560					565					570
Thr	Ser	Lys	Ser	Asn	Met	Val	His	Arg	Phe	Leu	Leu	Lys	Thr	Lys
				575					580					585
Thr	Asp	Val	Leu	Ile	Leu	Pro	Glu	Glu	Val	Glu	Trp	Ile	Lys	Phe
				590					595					600
Asn	Val	Gly	Met	Asn	Gly	Tyr	Tyr	Ile	Val	His	Tyr	Glu	Asp	Asp
				605					610					615
Gly	Trp	Asp	Ser	Leu	Thr	Gly	Leu	Leu	Lys	Gly	Thr	His	Thr	Ala
				620					625					630
Val	Ser	Ser	Asn	Asp	Arg	Ala	Ser	Leu	Ile	Asn	Asn	Ala	Phe	Gln
				635					640					645
Leu	Val	Ser	Ile	Gly	Lys	Leu	Ser	Ile	Glu	Lys	Ala	Leu	Asp	Leu
				650					655					660
Ser	Leu	Tyr	Leu	Lys	His	Glu	Thr	Glu	Ile	Met	Pro	Val	Phe	Gln
				665					670					675
Gly	Leu	Asn	Glu	Leu	Ile	Pro	Met	Tyr	Lys	Leu	Met	Glu	Lys	Arg
				680					685					690
Asp	Met	Asn	Glu	Val	Glu	Thr	Gln	Phe	Lys	Ala	Phe	Leu	Ile	Arg
				695					700					705
Leu	Leu	Arg	Asp	Leu	Ile	Asp	Lys	Gln	Thr	Trp	Thr	Asp	Glu	Gly
				710					715					720
Ser	Val	Ser	Glu	Gln	Met	Leu	Arg	Ser	Glu	Leu	Leu	Leu	Leu	Ala
				725					730					735
Cys	Val	His	Asn	Tyr	Gln	Pro	Cys	Val	Gln	Arg	Ala	Glu	Gly	Tyr
				740					745					750
Phe	Arg	Lys	Trp	Lys	Glu	Ser	Asn	Gly	Asn	Leu	Ser	Leu	Pro	Val
				755					760					765
Asp	Val	Thr	Leu	Ala	Val	Phe	Ala	Val	Gly	Ala	Gln	Ser	Thr	Glu
				770					775					780
Gly	Trp	Asp	Phe	Leu	Tyr	Ser	Lys	Tyr	Gln	Phe	Ser	Leu	Ser	Ser
				785					790					795
Thr	Glu	Lys	Ser	Gln	Ile	Glu	Phe	Ala	Leu	Cys	Arg	Thr	Gln	Asn
				800					805					810
Lys	Glu	Lys	Leu	Gln	Trp	Leu	Leu	Asp	Glu	Ser	Phe	Lys	Gly	Asp
				815					820					825
Lys	Ile	Lys	Thr	Gln	Glu	Phe	Pro	Gln	Ile	Leu	Thr	Leu	Ile	Gly
				830					835					840
Arg	Asn	Pro	Val	Gly	Tyr	Pro	Leu	Ala	Trp	Gln	Phe	Leu	Arg	Lys

	845		850		855
Asn Trp Asn Lys	Leu Val Gln Lys Phe	Glu Leu Gly Ser Ser	Ser		
	860		865		870
Ile Ala His Met	Val Met Gly Thr Thr	Asn Gln Phe Ser Thr	Arg		
	875		880		885
Thr Arg Leu Glu	Glu Val Lys Gly Phe	Phe Ser Ser Leu Lys	Glu		
	890		895		900
Asn Gly Ser Gln	Leu Arg Cys Val Gln	Gln Thr Ile Glu Thr	Ile		
	905		910		915
Glu Glu Asn Ile	Gly Trp Met Asp Lys	Asn Phe Asp Lys Ile	Arg		
	920		925		930
Val Trp Leu Gln	Ser Glu Lys Leu Glu	Arg Met			
	935		940		

<210> 354  
 <211> 1587  
 <212> DNA  
 <213> Homo sapiens

<400> 354  
 cagccacaga cgggtcatga ggcgggtatt actgctggcc ctccctggggt 50  
 tcatcctccc actgccagga gtgcaggcgc tgctctgccca gtttgggaca 100  
 gttcagcatg tgtggaaggt gtccgacctc ccccggaat ggaccctaa 150  
 gaacaccagc tgcgacagcg gcttgggggtg ccaggacacg ttgatgctca 200  
 ttgagagcgg accccaagtg agcctggtgc tctccaaggg ctgcacggag 250  
 gccaggacc aggagccccg cgtcactgag caccggatgg gccccggcct 300  
 ctccctgac tctacacct tctgtgtccg ccaggaggac ttctgcaaca 350  
 acctcgtaa ctccctccc ctttggggcc cacagcccc agcagacca 400  
 ggatccttga ggtgccaggt ctgcttgtct atggaaggct gtctggaggg 450  
 gacaacagaa gagatctgcc ccaaggggac cacacactgt tatgatggcc 500  
 tctcaggct caggggagga ggcattctt ccaatctgag agtccaggga 550  
 tgcattcccc agccagggtg caacctgtc aatgggacac aggaaattgg 600  
 gccggtgggt atgactgaga actgcaatag gaaagatttt ctgacctgtc 650  
 atcgggggac caccattatg acacacggaa acttgggtca agaaccact 700  
 gattggacca catcgaatac cgagatgtgc gaggtggggc aggtgtgtca 750  
 ggagacgctg ctgctcatag atgtaggact cacatcaacc ctgggtgggga 800  
 caaaaggctg cagcactgtt ggggctcaaa attcccagaa gaccaccatc 850  
 cactcagccc ctccctgggt gcttgtggcc tctataccc acttctgtc 900  
 ctgggacctg tgcaatagt ccagcagcag cagcgttctg ctgaactccc 950

```

tccctcctca agctgcccct gtcccaggag accggcagtg tccctacctgt 1000
gtgcagcccc ttggaacctg ttcaagtggc tccccccgaa tgacctgccc 1050
caggggcgcc actcattggt atgatgggta cattcatctc tcaggaggtg 1100
ggctgtccac caaaatgagc attcagggct gcgtggccca accttccagc 1150
ttcttgttga accacaccag acaaatcggg atcttctctg cgcgtgagaa 1200
gcgtgatgtg cagcctcctg cctctcagca tgagggaggt ggggctgagg 1250
gcctggagtc tctcacttgg ggggtggggc tggcactggc cccagcgctg 1300
tggtggggag tggtttgccc ttcttgctaa ctctattacc cccacgattc 1350
ttcaccgctg ctgaccaccc aactcaacc tccctctgac ctcataacct 1400
aatggccttg gacaccagat tctttcccat tctgtccatg aatcatcttc 1450
cccacacaca atcattcata tctactcacc taacagcaac actggggaga 1500
gcctggagca tccggacttg ccctatggga gaggggacgc tggaggagtg 1550
getgcatgta totgataata cagaccctgt cctttca 1587

```

```

<210> 355
<211> 437
<212> PRT
<213> Homo sapiens

```

```

<400> 355
Met Ser Ala Val Leu Leu Leu Ala Leu Leu Gly Phe Ile Leu Pro
  1           5           10
Leu Pro Gly Val Gln Ala Leu Leu Cys Gln Phe Gly Thr Val Gln
          20          25          30
His Val Trp Lys Val Ser Asp Leu Pro Arg Gln Trp Thr Pro Lys
          35          40          45
Asn Thr Ser Cys Asp Ser Gly Leu Gly Cys Gln Asp Thr Leu Met
          50          55          60
Leu Ile Glu Ser Gly Pro Gln Val Ser Leu Val Leu Ser Lys Gly
          65          70          75
Cys Thr Glu Ala Lys Asp Gln Glu Pro Arg Val Thr Glu His Arg
          80          85          90
Met Gly Pro Gly Leu Ser Leu Ile Ser Tyr Thr Phe Val Cys Arg
          95         100         105
Gln Glu Asp Phe Cys Asn Asn Leu Val Asn Ser Leu Pro Leu Trp
         110         115         120
Ala Pro Gln Pro Pro Ala Asp Pro Gly Ser Leu Arg Cys Pro Val
         125         130         135
Cys Leu Ser Met Glu Gly Cys Leu Glu Gly Thr Thr Glu Glu Ile
         140         145         150
Cys Pro Lys Gly Thr Thr His Cys Tyr Asp Gly Leu Leu Arg Leu

```

155										160					165				
Arg	Gly	Gly	Gly	Ile	Phe	Ser	Asn	Leu	Arg	Val	Gln	Gly	Cys	Met					
				170					175					180					
Pro	Gln	Pro	Gly	Cys	Asn	Leu	Leu	Asn	Gly	Thr	Gln	Glu	Ile	Gly					
				185					190					195					
Pro	Val	Gly	Met	Thr	Glu	Asn	Cys	Asn	Arg	Lys	Asp	Phe	Leu	Thr					
				200					205					210					
Cys	His	Arg	Gly	Thr	Thr	Ile	Met	Thr	His	Gly	Asn	Leu	Ala	Gln					
				215					220					225					
Glu	Pro	Thr	Asp	Trp	Thr	Thr	Ser	Asn	Thr	Glu	Met	Cys	Glu	Val					
				230					235					240					
Gly	Gln	Val	Cys	Gln	Glu	Thr	Leu	Leu	Leu	Ile	Asp	Val	Gly	Leu					
				245					250					255					
Thr	Ser	Thr	Leu	Val	Gly	Thr	Lys	Gly	Cys	Ser	Thr	Val	Gly	Ala					
				260					265					270					
Gln	Asn	Ser	Gln	Lys	Thr	Thr	Ile	His	Ser	Ala	Pro	Pro	Gly	Val					
				275					280					285					
Leu	Val	Ala	Ser	Tyr	Thr	His	Phe	Cys	Ser	Ser	Asp	Leu	Cys	Asn					
				290					295					300					
Ser	Ala	Ser	Ser	Ser	Ser	Val	Leu	Leu	Asn	Ser	Leu	Pro	Pro	Gln					
				305					310					315					
Ala	Ala	Pro	Val	Pro	Gly	Asp	Arg	Gln	Cys	Pro	Thr	Cys	Val	Gln					
				320					325					330					
Pro	Leu	Gly	Thr	Cys	Ser	Ser	Gly	Ser	Pro	Arg	Met	Thr	Cys	Pro					
				335					340					345					
Arg	Gly	Ala	Thr	His	Cys	Tyr	Asp	Gly	Tyr	Ile	His	Leu	Ser	Gly					
				350					355					360					
Gly	Gly	Leu	Ser	Thr	Lys	Met	Ser	Ile	Gln	Gly	Cys	Val	Ala	Gln					
				365					370					375					
Pro	Ser	Ser	Phe	Leu	Leu	Asn	His	Thr	Arg	Gln	Ile	Gly	Ile	Phe					
				380					385					390					
Ser	Ala	Arg	Glu	Lys	Arg	Asp	Val	Gln	Pro	Pro	Ala	Ser	Gln	His					
				395					400					405					
Glu	Gly	Gly	Gly	Ala	Glu	Gly	Leu	Glu	Ser	Leu	Thr	Trp	Gly	Val					
				410					415					420					
Gly	Leu	Ala	Leu	Ala	Pro	Ala	Leu	Trp	Trp	Gly	Val	Val	Cys	Pro					
				425					430					435					

Ser Cys

<210> 356  
 <211> 1238  
 <212> DNA  
 <213> Homo sapiens

```

<400> 356
gcgacggggca ggacgccccg ttcgcctagc gcgtgctcag gagttggtgt 50
cctgcctgcg ctcaggatga gggggaatct ggccctggtg ggcgttctaa 100
tcagcctggc cttcctgtca ctgctgccat ctggacatcc tcagccggct 150
ggcgatgacg cctgctctgt gcagatcctc gtccctggcc tcaaagggga 200
tgcgggagag aaggagagaca aaggcgcccc cggaaggcct ggaagagtcg 250
gccccacggg agaaaaagga gacatggggg acaaaggaca gaaaggcagt 300
gtgggtcgtc atggaaaaat tgggtccatt ggctctaaag gtgagaaaagg 350
agattccggt gacataggac cccctggtcc taatggagaa ccaggcctcc 400
catgtgagtg cagccagctg cgcaaggcca tcggggagat ggacaaccag 450
gtctctcagc tgaccagcga gctcaagttc atcaagaatg ctgtcgccgg 500
tgtgcgcgag acggagagca agatctacct gctggtgaag gaggagaagc 550
gctacgcgga cgcccagctg tcctgccagg gccgcggggg cacgctgagc 600
atgcccagg acgaggctgc caatggcctg atggccgcat acctggcgca 650
agccggcctg gcccggtgtc tcctcgccat caacgacctg gagaaggagg 700
gcgcccttct gtactctgac cactcccca tcgggacctt caacaagtgg 750
cgcagcggtg agcccaacaa tgcctacgac gaggaggact gcgtggagat 800
ggtggcctcg ggcggtgga acgacgtggc ctgccacacc acctgtact 850
tcattgtgtg gtttgacaag gagaacatgt gaggcctcagg ctggggctgc 900
ccattggggg ccccatatgt ccctgcaggg ttggcaggga cagagcccag 950
acctggtgc cagccaggga gctgtccctc tgtgaagggt ggaggctcac 1000
tgagtagagg gctgttgtct aaactgagaa aatggcctat gcttaagagg 1050
aaaatgaaag tgttcctggg gtgctgtctc tgaagaagca gagtttcatt 1100
acctgtattg tagcccaat gtcattatgt aattattacc cagaattgct 1150
cttcataaaa gcttgtgcct ttgtccaagc tatacaataa aatctttaag 1200
tagtgagta gttaagtcca aaaaaaaaaa aaaaaaaaaa 1238

```

```

<210> 357
<211> 271
<212> PRT
<213> Homo sapiens

```

```

<400> 357
Met Arg Gly Asn Leu Ala Leu Val Gly Val Leu Ile Ser Leu Ala
 1             5             10             15
Phe Leu Ser Leu Leu Pro Ser Gly His Pro Gln Pro Ala Gly Asp
          20             25             30

```

Asp	Ala	Cys	Ser	Val	Gln	Ile	Leu	Val	Pro	Gly	Leu	Lys	Gly	Asp	35	40	45
Ala	Gly	Glu	Lys	Gly	Asp	Lys	Gly	Ala	Pro	Gly	Arg	Pro	Gly	Arg	50	55	60
Val	Gly	Pro	Thr	Gly	Glu	Lys	Gly	Asp	Met	Gly	Asp	Lys	Gly	Gln	65	70	75
Lys	Gly	Ser	Val	Gly	Arg	His	Gly	Lys	Ile	Gly	Pro	Ile	Gly	Ser	80	85	90
Lys	Gly	Glu	Lys	Gly	Asp	Ser	Gly	Asp	Ile	Gly	Pro	Pro	Gly	Pro	95	100	105
Asn	Gly	Glu	Pro	Gly	Leu	Pro	Cys	Glu	Cys	Ser	Gln	Leu	Arg	Lys	110	115	120
Ala	Ile	Gly	Glu	Met	Asp	Asn	Gln	Val	Ser	Gln	Leu	Thr	Ser	Glu	125	130	135
Leu	Lys	Phe	Ile	Lys	Asn	Ala	Val	Ala	Gly	Val	Arg	Glu	Thr	Glu	140	145	150
Ser	Lys	Ile	Tyr	Leu	Leu	Val	Lys	Glu	Glu	Lys	Arg	Tyr	Ala	Asp	155	160	165
Ala	Gln	Leu	Ser	Cys	Gln	Gly	Arg	Gly	Gly	Thr	Leu	Ser	Met	Pro	170	175	180
Lys	Asp	Glu	Ala	Ala	Asn	Gly	Leu	Met	Ala	Ala	Tyr	Leu	Ala	Gln	185	190	195
Ala	Gly	Leu	Ala	Arg	Val	Phe	Ile	Gly	Ile	Asn	Asp	Leu	Glu	Lys	200	205	210
Glu	Gly	Ala	Phe	Val	Tyr	Ser	Asp	His	Ser	Pro	Met	Arg	Thr	Phe	215	220	225
Asn	Lys	Trp	Arg	Ser	Gly	Glu	Pro	Asn	Asn	Ala	Tyr	Asp	Glu	Glu	230	235	240
Asp	Cys	Val	Glu	Met	Val	Ala	Ser	Gly	Gly	Trp	Asn	Asp	Val	Ala	245	250	255
Cys	His	Thr	Thr	Met	Tyr	Phe	Met	Cys	Glu	Phe	Asp	Lys	Glu	Asn	260	265	270

Met

<210> 358  
 <211> 972  
 <212> DNA  
 <213> Homo sapiens

<400> 358  
 agtgactgca gccttcctag atccccctcca ctoggtttot ctctttgcag 50  
 gagcaccggc agcaccagtg tgtgagggga gcaggcagcg gtcctagcca 100  
 gttccttgat cctgccagac caccagccc ccggcacaga gctgctccac 150

aggcaccatg aggatcatgc tgctattcac agccatcctg gccttcagcc 200  
 tagctcagag ctttggggct gtctgtaagg agccacagga ggaggtgggt 250  
 cctggcgggg gccgcagcaa gagggatcca gatctctacc agctgctcca 300  
 gagactcttc aaaagccact catctctgga gggattgctc aaagccctga 350  
 gccaggctag cacagatcct aaggaatcaa catctcccga gaaacgtgac 400  
 atgcatgact tctttgtggg acttatgggc aagaggagcg tccagccaga 450  
 gggaaagaca ggacctttct taccttcagt gagggttcct cggccccctc 500  
 atcccaatca gcttggatcc acaggaaagt cttccctggg aacagaggag 550  
 cagagacctt tataagactc tcctacggat gtgaatcaag agaacgtccc 600  
 cagctttggc atcctcaagt atccccgag agcagaatag gtactccact 650  
 tccggactcc tggactgcat taggaagacc tctttccctg tcccaatccc 700  
 caggtgcgca cgctcctggt accctttctc ttcctgttc ttgtaacatt 750  
 cttgtgcttt gactccttct ccacttttcc tacctgacct tgggtgtggaa 800  
 actgcatagt gaatatcccc aaccccaatg ggcattgact gtagaataacc 850  
 ctagagttcc tgtagtgtcc tacattaata atataatgtc tctctctatt 900  
 cctcaacaat aaaggatttt tgcatatgaa aaaaaaaaaa aaaaaaaaaa 950  
 aaaaaaaaaa aaaaaaaaaa aa 972

<210> 359  
 <211> 135  
 <212> PRT  
 <213> Homo sapiens

<400> 359  
 Met Arg Ile Met Leu Leu Phe Thr Ala Ile Leu Ala Phe Ser Leu  
 1 5 10 15  
 Ala Gln Ser Phe Gly Ala Val Cys Lys Glu Pro Gln Glu Glu Val  
 20 25 30  
 Val Pro Gly Gly Gly Arg Ser Lys Arg Asp Pro Asp Leu Tyr Gln  
 35 40 45  
 Leu Leu Gln Arg Leu Phe Lys Ser His Ser Ser Leu Glu Gly Leu  
 50 55 60  
 Leu Lys Ala Leu Ser Gln Ala Ser Thr Asp Pro Lys Glu Ser Thr  
 65 70 75  
 Ser Pro Glu Lys Arg Asp Met His Asp Phe Phe Val Gly Leu Met  
 80 85 90  
 Gly Lys Arg Ser Val Gln Pro Glu Gly Lys Thr Gly Pro Phe Leu  
 95 100 105  
 Pro Ser Val Arg Val Pro Arg Pro Leu His Pro Asn Gln Leu Gly  
 110 115 120



Ser	Thr	Gly	Lys	Ser	Ser	Leu	Gly	Thr	Glu	Glu	Gln	Arg	Pro	Leu
				125					130					135

<210> 360  
 <211> 1738  
 <212> DNA  
 <213> Homo sapiens

<400> 360  
 gggcgtctcc ggctgctcct attgagctgt ctgctcgtg tgcccgtgt 50  
 gcctgctgtg cccgcgtgt cgcgctgct accgcgtctg ctggacgcgg 100  
 gagacgccag cgagctggtg attggagccc tgcggagagc tcaagcggcc 150  
 agctctgccc caggagccca ggctgccccg tgagtcccat agttgctgca 200  
 ggagtggagc catgagctgc gtcctgggtg gtgtcatccc cttggggctg 250  
 ctgttcctgg tctgcggatc ccaaggctac ctctgccc aactcactct 300  
 cttagaggag ctgctcagca aataccagca caacgagtct cactcccggg 350  
 tccgcagagc catccccagg gaggacaagg aggagatcct catgctgcac 400  
 aacaagcttc ggggccaggt gcagcctcag gcctccaaca tggagtacat 450  
 ggtgagcgcc ggctccggcc gcagaggctg gcaccggggg tggggcctgg 500  
 gccaccagcc tgctctgttc ccagccagc tctgttcccc agccagtgcg 550  
 tgtgatggct ggctcagggt ctctctggc aggggaggat cccggctctg 600  
 ttctgttttg tttgtttgtt ttgagacagg gtctcactct gccactgacg 650  
 ctggagtgca atggcacaat cgtcatgccc tgaaacctta gactcccggg 700  
 gttaagcgat cctgcttcag cctcccaagt agctggaact acaggcatgc 750  
 accatggtgc ccagctagat tttaaatatt ttgtggagat gggggtcttg 800  
 ctacgttgcc caggctggtc ttgaactcct aggcctcaagc aatcctcctg 850  
 cctcagcctc tcaaagtgtc aggattatag gcatgagtca ccctgtctgg 900  
 ctctggctct gttcttaaca ttctgccaaa acaacacacg tgggttcctt 950  
 gtgcagagcc tgctcgttg ccttcatgtc actcttggtg gctccactgg 1000  
 gaacacagct ctcagccttt ccacactgga ggcagagtgg ggaggggccc 1050  
 agggctgggc tttgctgatg ctgatctcag ctgtgccaca cgctagctgc 1100  
 accaccctga cttctcctta gcccggtgtg gcctcacttt ccacttgag 1150  
 agtccttcct cgcgtggttg ccatgactgt gagataagtc gaggctgtga 1200  
 agggcccggc acagactgac ctgcctcccc aacccttagg ctttgctaac 1250  
 cgggaaagga gctaacggtg acagaagaca gccaaagtca accctccgg 1300  
 gtgattgtga tgggtgttcc aggtgtgggt gggcgatgct gctacttgac 1350

cccaagctcc agtgtggaac cttccttctt ggctgggttt ccagaactac 1400  
 agaggaatgg accacagtct tccaggggtcc ctcctcgtcc accaaccggg 1450  
 agcctccacc ttggccatcc gtcagctatg aatgggtttt taaacaaacc 1500  
 cactgccag cctgggtaac atggtaaagc cccgtctcta caaaaaaatc 1550  
 caagttagcc gggcatgggt gtgcgcacct gtagtcccag ctgcagtggg 1600  
 actgaggtgg aggtggaggt ggggggtggg agctgaggaa ggaggatcgc 1650  
 ttgagcctgg gaagtcgagg ctgcagtgag ctgagattgc accactgcac 1700  
 tccagcctgg gtgacagagc aagaccctgt ctcaaaaa 1738

<210> 361  
 <211> 159  
 <212> PRT  
 <213> Homo sapiens

<400> 361  
 Met Ser Cys Val Leu Gly Gly Val Ile Pro Leu Gly Leu Leu Phe  
 1 5 10 15  
 Leu Val Cys Gly Ser Gln Gly Tyr Leu Leu Pro Asn Val Thr Leu  
 20 25 30  
 Leu Glu Glu Leu Leu Ser Lys Tyr Gln His Asn Glu Ser His Ser  
 35 40 45  
 Arg Val Arg Arg Ala Ile Pro Arg Glu Asp Lys Glu Glu Ile Leu  
 50 55 60  
 Met Leu His Asn Lys Leu Arg Gly Gln Val Gln Pro Gln Ala Ser  
 65 70 75  
 Asn Met Glu Tyr Met Val Ser Ala Gly Ser Gly Arg Arg Gly Trp  
 80 85 90  
 His Arg Gly Trp Gly Leu Gly His Gln Pro Ala Leu Phe Pro Ser  
 95 100 105  
 Gln Leu Cys Ser Pro Ala Ser Ala Cys Asp Gly Trp Leu Arg Val  
 110 115 120  
 Ser Ser Gly Arg Gly Gly Ser Arg Leu Cys Ser Val Leu Phe Val  
 125 130 135  
 Cys Phe Glu Thr Gly Ser His Ser Ala Thr Asp Ala Gly Val Gln  
 140 145 150  
 Trp His Asn Arg His Ala Leu Lys Pro  
 155

<210> 362  
 <211> 422  
 <212> DNA  
 <213> Homo sapiens

<400> 362  
 aaggagaggc caccgggact tcagtgtctc ctccatccca ggagcgcagt 50

ggccactatg gggctctgggc tgccccttgt cctcctcttg accctccttg 100  
gcagctcaca tggaacaggg cggggtatga ctttgcaact gaagctgaag 150  
gagtcttttc tgacaaattc ctccctatgag tccagcttcc tggaattgct 200  
tgaaaagctc tgccctctcc tccatctccc ttcagggacc agcgtcaccc 250  
tccaccatgc aagatctcaa caccatgttg tctgcaacac atgacagcca 300  
ttgaagcctg tgctcttctt ggcccgggct tttgggccgg ggatgcagga 350  
ggcaggcccc gaccctgtct ttcagcaggc cccaccctc ctgagtggca 400  
ataaataaaa ttcggtatgc tg 422

<210> 363  
<211> 78  
<212> PRT  
<213> Homo sapiens

<400> 363  
Met Gly Ser Gly Leu Pro Leu Val Leu Leu Leu Thr Leu Leu Gly  
1 5 10 15  
Ser Ser His Gly Thr Gly Pro Gly Met Thr Leu Gln Leu Lys Leu  
20 25 30  
Lys Glu Ser Phe Leu Thr Asn Ser Ser Tyr Glu Ser Ser Phe Leu  
35 40 45  
Glu Leu Leu Glu Lys Leu Cys Leu Leu Leu His Leu Pro Ser Gly  
50 55 60  
Thr Ser Val Thr Leu His His Ala Arg Ser Gln His His Val Val  
65 70 75  
Cys Asn Thr

<210> 364  
<211> 826  
<212> DNA  
<213> Homo sapiens

<400> 364  
aattgtatct gtgtaatgtt aaaacaaacg aaataaaata gaaggaaaaa 50  
ctttctgagt ttcaaaaaca acagactagt actctaaaga actcttttaa 100  
acaattaact gttaggattg cagttatgat tggatattat ttaattctgt 150  
ttctgatgtg gggttcctcc actgtgttct gtgtgctatt aatatttacc 200  
attgcagaag cttcattcag tgttgaaaat gaatgcttag tggatctgtg 250  
cctcttacgc atatgttaca aattatctgg agttcctaata caatgcagag 300  
ttcccctccc ctccgattgt tctaaataat tgaaagatgt ctgctgtgga 350  
aaaaggcatg tattttaaata tgtatgattc tcaaccatct ttagttggga 400  
aaggtccttg aaagccaatg gaaatacttt ttttttttct tggcactaat 450

caagtgagtg ttaccttttc acttagtagg atgtgttggt acgctagtaa 500  
aatagaaacc tgtgtttatt ctcaggattt ttagaaacaa cagccatcat 550  
tttattttat gtgtgtgttc ttggctgtat tcataaatta tatattttgg 600  
gctatcaaatt attacttcat tcaatataaa taacaatagt agaagttggt 650  
tacttagata tgctttctag ttgcattttc tcagcctatg taagactact 700  
ttgttgtaat agcctttgaa atttacagta ctgtctctct actatcttca 750  
gattacttga ttcaaataaa ccaattatgt ttgtaattga tattaataaa 800  
accagaataa aagttcatat ctaccc 826

<210> 365  
<211> 67  
<212> PRT  
<213> Homo sapiens

<400> 365  
Met Ile Gly Tyr Tyr Leu Ile Leu Phe Leu Met Trp Gly Ser Ser  
1 5 10 15  
Thr Val Phe Cys Val Leu Leu Ile Phe Thr Ile Ala Glu Ala Ser  
20 25 30  
Phe Ser Val Glu Asn Glu Cys Leu Val Asp Leu Cys Leu Leu Arg  
35 40 45  
Ile Cys Tyr Lys Leu Ser Gly Val Pro Asn Gln Cys Arg Val Pro  
50 55 60  
Leu Pro Ser Asp Cys Ser Lys  
65

<210> 366  
<211> 2475  
<212> DNA  
<213> Homo sapiens

<400> 366  
gaggatttgc cacagcagcg gatagagcag gagagcacca ccgagaccct 50  
tgagacatcc ttgagaagag ccacagcata agagactgcc ctgcttggtg 100  
ttttgcagga tgatgggtggc ccttcgagga gcttctgcat tgctgggttct 150  
gttccttgca gctttttctgc ccccgccgca gtgtaccag gaccagcca 200  
tggtgcatta catctaccag cgctttcgag tcttgagca agggctggaa 250  
aatgtaccc aagcaacgag ggcatacatt caagaattcc aagagttctc 300  
aaaaaatata tctgtcatgc tgggaagatg tcagacctac acaagtgagt 350  
acaagagtgc agtgggtaac ttggcactga gagttgaacg tgcccaacgg 400  
gagattgact acatacaata ccttcgagag gctgacgagt gcatcgatc 450  
agaggacaag acaotggcag aaatgttgct ccaagaagct gaagaagaga 500

aaaagatccg gactctgctg aatgcaagct gtgacaacat gctgatgggc 550  
 ataaagtctt tgaaaatagt gaagaagatg atggacacac atggctcttg 600  
 gatgaaagat gctgtctata actctccaaa ggtgtactta ttaattggat 650  
 ccagaaacaa cactgttttg gaatttgcaa acatacgggc attcatggag 700  
 gataacacca agccagctcc ccggaagcaa atcctaacac tttcctggca 750  
 gggaacaggc caagtgatct acaaagggtt tctatttttt cataaccaag 800  
 caacttctaa tgagataatc aaatataacc tgcagaagag gactgtggaa 850  
 gatcgaatgc tgctcccagg aggggtaggc cgagcattgg tttaccagca 900  
 ctccccctca acttacattg acctggctgt ggatgagcat gggctctggg 950  
 ccatccactc tgggccaggc acccatagcc atttggttct cacaaagatt 1000  
 gagccgggca cactgggagt ggagcattca tgggataccc catgcagaag 1050  
 ccaggatgct gaagcctcat tcctcttggtg tggggttctc tatgtggtct 1100  
 acagtactgg gggccagggc cctcatcgca tcacctgcat ctatgatcca 1150  
 ctgggcacta tcagtgagga ggacttgccc aacttgttct tccccagag 1200  
 accaagaagt cactccatga tccattacaa cccagagat aagcagctct 1250  
 atgcctggaa tgaaggaaac cagatcattt acaaactcca gacaaagaga 1300  
 aagctgcctc tgaagtaatg cattacagct gtgagaaaga gcaactgtggc 1350  
 tttggcagct gttctacagg acagtgaggc tatagcccct tcacaatata 1400  
 gtatccctct aatcacacac aggaagagtg tgtagaagtg gaaatacgta 1450  
 tgccctcttt cccaaatgtc actgccttag gtatcttcca agagcttaga 1500  
 tgagagcata tcatcaggaa agtttcaaca atgtccatta ctccccaaa 1550  
 cctcctggct ctcaaggatg accacattct gatacagcct acttcaagcc 1600  
 ttttgtttta ctgctcccca gcatttactg taactctgcc atcttccctc 1650  
 ccacaattag agttgtatgc cagcccctaa tattcaccac tggcttttct 1700  
 ctcccctggc ctttgctgaa gctcttcctt ctttttcaaa tgtctattga 1750  
 tattctccca ttttactg ccaactaaaa tactattaat atttctttct 1800  
 tttcttttct ttttttgag acaaggctct actatgttgc ccaggctggg 1850  
 ctcaaactcc agagctcaag agatcctcct gcctcagcct cctaagtacc 1900  
 tgggattaca ggcatgtgcc accacacctg gcttaaaata ctatttctta 1950  
 ttgaggttta acctctattt cccctagccc tgtccttcca ctaagcttgg 2000  
 tagatgtaat aataaagtga aaatattaac atttgaatat cgctttccag 2050  
 gtgtggagtg tttgcacatc attgaattct cgtttcacct ttgtgaaaca 2100

tgcacaagtc ttacagctg tcattctaga gtttaggtga gtaacacaat 2150  
 tacaaagtga aagatacagc tagaaaatac tacaaatccc atagtttttc 2200  
 cattgcccaa ggaagcatca aatacgtatg tttgttcacc tactottata 2250  
 gtcaatgcgt tcatcgtttc agcctaaaaa taatagtctg tcccttttagc 2300  
 cagttttcat gtctgcacaa gacctttcaa taggcctttc aaatgataat 2350  
 tcctccagaa aaccagtcta agggtagagga ccccaactct agcctcctct 2400  
 tgtcttgctg tcctctgttt ctctctttct gctttaaatt caataaaagt 2450  
 gacactgagc aaaaaaaaaa aaaaa 2475

<210> 367  
 <211> 402  
 <212> PRT  
 <213> Homo sapiens

<400> 367  
 Met Met Val Ala Leu Arg Gly Ala Ser Ala Leu Leu Val Leu Phe  
 1 5 10 15  
 Leu Ala Ala Phe Leu Pro Pro Pro Gln Cys Thr Gln Asp Pro Ala  
 20 25 30  
 Met Val His Tyr Ile Tyr Gln Arg Phe Arg Val Leu Glu Gln Gly  
 35 40 45  
 Leu Glu Lys Cys Thr Gln Ala Thr Arg Ala Tyr Ile Gln Glu Phe  
 50 55 60  
 Gln Glu Phe Ser Lys Asn Ile Ser Val Met Leu Gly Arg Cys Gln  
 65 70 75  
 Thr Tyr Thr Ser Glu Tyr Lys Ser Ala Val Gly Asn Leu Ala Leu  
 80 85 90  
 Arg Val Glu Arg Ala Gln Arg Glu Ile Asp Tyr Ile Gln Tyr Leu  
 95 100 105  
 Arg Glu Ala Asp Glu Cys Ile Val Ser Glu Asp Lys Thr Leu Ala  
 110 115 120  
 Glu Met Leu Leu Gln Glu Ala Glu Glu Glu Lys Lys Ile Arg Thr  
 125 130 135  
 Leu Leu Asn Ala Ser Cys Asp Asn Met Leu Met Gly Ile Lys Ser  
 140 145 150  
 Leu Lys Ile Val Lys Lys Met Met Asp Thr His Gly Ser Trp Met  
 155 160 165  
 Lys Asp Ala Val Tyr Asn Ser Pro Lys Val Tyr Leu Leu Ile Gly  
 170 175 180  
 Ser Arg Asn Asn Thr Val Trp Glu Phe Ala Asn Ile Arg Ala Phe  
 185 190 195  
 Met Glu Asp Asn Thr Lys Pro Ala Pro Arg Lys Gln Ile Leu Thr  
 200 205 210

Leu	Ser	Trp	Gln	Gly	Thr	Gly	Gln	Val	Ile	Tyr	Lys	Gly	Phe	Leu	215	220	225
Phe	Phe	His	Asn	Gln	Ala	Thr	Ser	Asn	Glu	Ile	Ile	Lys	Tyr	Asn	230	235	240
Leu	Gln	Lys	Arg	Thr	Val	Glu	Asp	Arg	Met	Leu	Leu	Pro	Gly	Gly	245	250	255
Val	Gly	Arg	Ala	Leu	Val	Tyr	Gln	His	Ser	Pro	Ser	Thr	Tyr	Ile	260	265	270
Asp	Leu	Ala	Val	Asp	Glu	His	Gly	Leu	Trp	Ala	Ile	His	Ser	Gly	275	280	285
Pro	Gly	Thr	His	Ser	His	Leu	Val	Leu	Thr	Lys	Ile	Glu	Pro	Gly	290	295	300
Thr	Leu	Gly	Val	Glu	His	Ser	Trp	Asp	Thr	Pro	Cys	Arg	Ser	Gln	305	310	315
Asp	Ala	Glu	Ala	Ser	Phe	Leu	Leu	Cys	Gly	Val	Leu	Tyr	Val	Val	320	325	330
Tyr	Ser	Thr	Gly	Gly	Gln	Gly	Pro	His	Arg	Ile	Thr	Cys	Ile	Tyr	335	340	345
Asp	Pro	Leu	Gly	Thr	Ile	Ser	Glu	Glu	Asp	Leu	Pro	Asn	Leu	Phe	350	355	360
Phe	Pro	Lys	Arg	Pro	Arg	Ser	His	Ser	Met	Ile	His	Tyr	Asn	Pro	365	370	375
Arg	Asp	Lys	Gln	Leu	Tyr	Ala	Trp	Asn	Glu	Gly	Asn	Gln	Ile	Ile	380	385	390
Tyr	Lys	Leu	Gln	Thr	Lys	Arg	Lys	Leu	Pro	Leu	Lys				395	400	

<210> 368  
 <211> 2281  
 <212> DNA  
 <213> Homo sapiens

<400> 368  
 gggcgccgc gtactcacta gctgaggtgg cagtgggttcc accaacaatgg 50  
 agctctcgca gatgtcggag ctcatggggc tgtcgggtgtt gcttgggctg 100  
 ctggccctga tggcgacggc ggcggtagcg cgggggtggc tgcgcgcggg 150  
 ggaggagagg agcggccggc ccgcctgccaaaagcaaat ggatttccac 200  
 ctgacaaatc ttcgggatcc aagaagcaga aacaatatca gcggattcgg 250  
 aaggagaagc ctcaacaaca caacttcacc cacgcctcc tggctgcagc 300  
 tctgaagagc cacagcggga acatatcttg catggacttt agcagcaatg 350  
 gcaaatacct ggctacctgt gcagatgac gcaccatccg catctggagc 400  
 accaaggact tctgcagcg agagcaccgc agcatgagag ccaacgtgga 450

gctggaccac gccaccctgg tgcgcttcag ccctgactgc agagccttca 500  
 tcgtctggct ggccaacggg gacaccctcc gtgtcttcaa gatgaccaag 550  
 cgggaggatg ggggctacac cttcacagcc accccagagg acttccctaa 600  
 aaagcacaag gcgcctgtca tcgacattgg cattgctaac acagggaagt 650  
 ttatcatgac tgcctccagt gacaccactg tcctcatctg gagcctgaag 700  
 ggtcaagtgc tgtctacat caacaccaac cagatgaaca acacacacgc 750  
 tgctgtatct ccctgtggca gatttgtagc ctctgtgtgc ttcaccccag 800  
 atgtgaagggt ttgggaagtc tgctttggaa agaaggggga gttccaggag 850  
 gtggtgctgag ccttcgaact aaagggccac tccgcggctg tgcactcgtt 900  
 tgctttctcc aacgactcac ggaggatggc ttctgtctcc aaggatggta 950  
 catggaaact gtgggacaca gatgtggaat acaagaagaa gcaggacccc 1000  
 tacttgctga agacaggccg ctttgaagag gcggcggtg ccgcgcctg 1050  
 ccgcctggcc ctctccccc acgccaggt cttggccttg gccagtggca 1100  
 gtagtattca tctctacaat acccggcggg gcgagaagga ggagtgttt 1150  
 gagcgggtcc atggcgagtg tatcgccaac ttgtcctttg acatcaactg 1200  
 ccgctttctg gcctcctgtg gggaccgggc ggtgcggctg tttcacaaca 1250  
 ctctggcca ccgagccatg gtggaggaga tgcagggcca cctgaagcgg 1300  
 gcctccaacg agagcacccg ccagaggctg cagcagcagc tgaccaggc 1350  
 ccaagagacc ctgaagagcc tgggtgccct gaagaagtga ctctgggagg 1400  
 gccggcgca gaggattgag gaggaggat ctggcctcct catggcactg 1450  
 ctgccatctt tcctcccagg tggaagcctt tcagaaggag tctcctggtt 1500  
 ttcttactgg tggcctgct tcttcccatt gaaactactc ttgtctactt 1550  
 aggtctctct cttcttgctg gctgtgactc ctccctgact agtggccaag 1600  
 gtgcttttct tcctcccagg ccagtggtt ggaatctgtc ccacactggc 1650  
 actgaggaga atggtagaga ggagaggaga gagagagaga atgtgatttt 1700  
 tggccttgct gcagcacatc ctcacacca aagaagtttg taaatgttcc 1750  
 agaacaacct agagaacacc tgagtactaa gcagcagttt tgcaaggatg 1800  
 ggagactggg atagcttccc atcacagaac tgtgttccat caaaaagaca 1850  
 ctaagggtatt tccttctggg cctcagttct atttgtaaga tggagaataa 1900  
 tcctctctgt gaactccttg caaagatgat atgaggctaa gagaatatca 1950  
 agtccccagg tctggaagaa aagtagaaaa gagtagtact attgtccaat 2000  
 gtcataaag tggtaaaagt gggaaccagt gtgctttgaa accaaattag 2050



aaacacattc cttgggaagg caaagttttc tgggacttga tcatacattt 2100  
 tatatggttg ggactttctc cttcgggaga tgatatcttg tttaaggaga 2150  
 cctcttttca gttcatcaag ttcacagat atttgagtgc ccactctgtg 2200  
 cccaaataaa tatgagctgg ggattaaaaa aaaaaaaaaa aaaaaaaaaa 2250  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa a 2281

<210> 369  
 <211> 447  
 <212> PRT  
 <213> Homo sapiens

<400> 369  
 Met Glu Leu Ser Gln Met Ser Glu Leu Met Gly Leu Ser Val Leu  
 1 5 10 15  
 Leu Gly Leu Leu Ala Leu Met Ala Thr Ala Ala Val Ala Arg Gly  
 20 25 30  
 Trp Leu Arg Ala Gly Glu Glu Arg Ser Gly Arg Pro Ala Cys Gln  
 35 40 45  
 Lys Ala Asn Gly Phe Pro Pro Asp Lys Ser Ser Gly Ser Lys Lys  
 50 55 60  
 Gln Lys Gln Tyr Gln Arg Ile Arg Lys Glu Lys Pro Gln Gln His  
 65 70 75  
 Asn Phe Thr His Arg Leu Leu Ala Ala Ala Leu Lys Ser His Ser  
 80 85 90  
 Gly Asn Ile Ser Cys Met Asp Phe Ser Ser Asn Gly Lys Tyr Leu  
 95 100 105  
 Ala Thr Cys Ala Asp Asp Arg Thr Ile Arg Ile Trp Ser Thr Lys  
 110 115 120  
 Asp Phe Leu Gln Arg Glu His Arg Ser Met Arg Ala Asn Val Glu  
 125 130 135  
 Leu Asp His Ala Thr Leu Val Arg Phe Ser Pro Asp Cys Arg Ala  
 140 145 150  
 Phe Ile Val Trp Leu Ala Asn Gly Asp Thr Leu Arg Val Phe Lys  
 155 160 165  
 Met Thr Lys Arg Glu Asp Gly Gly Tyr Thr Phe Thr Ala Thr Pro  
 170 175 180  
 Glu Asp Phe Pro Lys Lys His Lys Ala Pro Val Ile Asp Ile Gly  
 185 190 195  
 Ile Ala Asn Thr Gly Lys Phe Ile Met Thr Ala Ser Ser Asp Thr  
 200 205 210  
 Thr Val Leu Ile Trp Ser Leu Lys Gly Gln Val Leu Ser Thr Ile  
 215 220 225  
 Asn Thr Asn Gln Met Asn Asn Thr His Ala Ala Val Ser Pro Cys  
 230 235 240

Gly	Arg	Phe	Val	Ala	Ser	Cys	Gly	Phe	Thr	Pro	Asp	Val	Lys	Val	245	250	255
Trp	Glu	Val	Cys	Phe	Gly	Lys	Lys	Gly	Glu	Phe	Gln	Glu	Val	Val	260	265	270
Arg	Ala	Phe	Glu	Leu	Lys	Gly	His	Ser	Ala	Ala	Val	His	Ser	Phe	275	280	285
Ala	Phe	Ser	Asn	Asp	Ser	Arg	Arg	Met	Ala	Ser	Val	Ser	Lys	Asp	290	295	300
Gly	Thr	Trp	Lys	Leu	Trp	Asp	Thr	Asp	Val	Glu	Tyr	Lys	Lys	Lys	305	310	315
Gln	Asp	Pro	Tyr	Leu	Leu	Lys	Thr	Gly	Arg	Phe	Glu	Glu	Ala	Ala	320	325	330
Gly	Ala	Ala	Pro	Cys	Arg	Leu	Ala	Leu	Ser	Pro	Asn	Ala	Gln	Val	335	340	345
Leu	Ala	Leu	Ala	Ser	Gly	Ser	Ser	Ile	His	Leu	Tyr	Asn	Thr	Arg	350	355	360
Arg	Gly	Glu	Lys	Glu	Glu	Cys	Phe	Glu	Arg	Val	His	Gly	Glu	Cys	365	370	375
Ile	Ala	Asn	Leu	Ser	Phe	Asp	Ile	Thr	Gly	Arg	Phe	Leu	Ala	Ser	380	385	390
Cys	Gly	Asp	Arg	Ala	Val	Arg	Leu	Phe	His	Asn	Thr	Pro	Gly	His	395	400	405
Arg	Ala	Met	Val	Glu	Glu	Met	Gln	Gly	His	Leu	Lys	Arg	Ala	Ser	410	415	420
Asn	Glu	Ser	Thr	Arg	Gln	Arg	Leu	Gln	Gln	Gln	Leu	Thr	Gln	Ala	425	430	435
Gln	Glu	Thr	Leu	Lys	Ser	Leu	Gly	Ala	Leu	Lys	Lys				440	445	

<210> 370  
 <211> 1415  
 <212> DNA  
 <213> Homo sapiens

<400> 370  
 tggcctcccc agcttgccag gcacaaggct gagcgggagg aagcgagagg 50  
 catctaagca ggcagtgttt tgccttcacc ccaagtgacc atgagaggtg 100  
 ccacgcgagt ctcaatcatg ctctctoctag taactgtgtc tgactgtgct 150  
 gtgatcacag gggcctgtga gcgggatgtc cagtgtgggg caggcacctg 200  
 ctgtgccatc agcctgtggc ttcgaggggt gcggatgtgc accccgctgg 250  
 ggcgggaagg cgaggagtgc caccocggca gccacaaggc ccccttcttc 300  
 aggaaacgca agcaccacac ctgtccttgc ttgccaacc tgctgtgctc 350  
 caggttcccc gagcgcaggc accgctgctc catggacttg aagaacatca 400

atttttaggc gcttgccctgg tctcaggata cccaccatcc ttttcctgag 450  
 cacagcctgg atttttatatt ctgccatgaa acccagctcc catgactctc 500  
 ccagtcccta cactgactac cctgatctct cttgtctagt acgcacatat 550  
 gcacacaggc agacatacct cccatcatga catgggtccc aggetggcct 600  
 gaggatgtca cagcttgagg ctgtggtgtg aaaggtggcc agcctgggtc 650  
 tcttcocctgc tcaggctgcc agagaggtgg taaatggcag aaaggacatt 700  
 cccctcccc tcccagggtg acctgctctc tttcctgggc cctgcccctc 750  
 tccccacatg tatccctcgg tctgaattag acattcctgg gcacaggctc 800  
 ttgggtgcat tgctcagagt cccaggctct ggctgaccc tcaggccctt 850  
 cacgtgaggt ctgtgaggac caatttgtgg gtagttcatc ttcctcgat 900  
 tggttaactc cttagtttca gaccacagac tcaagattgg ctcttcccag 950  
 agggcagcag acagtcaccc caaggcaggt gtagggagcc caggagggcc 1000  
 aatcagcccc ctgaagactc tgggtcccagt cagcctgtgg cttgtggcct 1050  
 gtgacctgtg accttctgcc agaattgtca tgctctgag gccccctctt 1100  
 accacacttt accagttaac cactgaagcc cccaattccc acagcttttc 1150  
 cattaanaatg caaatggtgg tggttcaatc taatctgata ttgacatatt 1200  
 agaaggcaat taggggtgtt ccttaaaca ctcctttcca aggatcagcc 1250  
 ctgagagcag gttggtgact ttgaggagg cagtcctctg tccagattgg 1300  
 ggtgggagca agggacaggg agcagggcag gggctgaaag gggcactgat 1350  
 tcagaccagg gaggcaacta cacaccaaca tgctggcttt agaataaaag 1400  
 caccaactga aaaaa 1415

<210> 371  
 <211> 105  
 <212> PRT  
 <213> Homo sapiens

<400> 371  
 Met Arg Gly Ala Thr Arg Val Ser Ile Met Leu Leu Leu Val Thr  
 1 5 10 15  
 Val Ser Asp Cys Ala Val Ile Thr Gly Ala Cys Glu Arg Asp Val  
 20 25 30  
 Gln Cys Gly Ala Gly Thr Cys Cys Ala Ile Ser Leu Trp Leu Arg  
 35 40 45  
 Gly Leu Arg Met Cys Thr Pro Leu Gly Arg Glu Gly Glu Glu Cys  
 50 55 60  
 His Pro Gly Ser His Lys Val Pro Phe Phe Arg Lys Arg Lys His  
 65 70 75

His	Thr	Cys	Pro	Cys	Leu	Pro	Asn	Leu	Leu	Cys	Ser	Arg	Phe	Pro
				80					85					90
Asp	Gly	Arg	Tyr	Arg	Cys	Ser	Met	Asp	Leu	Lys	Asn	Ile	Asn	Phe
				95					100					105

<210> 372  
 <211> 1281  
 <212> DNA  
 <213> Homo sapiens

<400> 372  
 agcgcccggg cgtcggggcg gtaaaaggcc ggcagaaggg aggcacttga 50  
 gaaatgtctt tcctccagga cccaagtttc ttcaccatgg ggatgtgggc 100  
 cattggtgca ggagccctgg gggctgctgc cttggcattg ctgcttgcca 150  
 acacagacgt gtttctgtcc aagcccaga aagcgccct ggagtacctg 200  
 gaggatatag acctgaaaac actggagaag gaaccaagga ctttcaaagc 250  
 aaaggagcta tgggaaaaaa atggagctgt gattatggcc gtgcggaggc 300  
 caggctgttt cctctgtcga gaggaagctg cggatctgtc ctccctgaaa 350  
 agcatgttgg accagctggg cgtccccctc tatgcagtgg taaaggagca 400  
 catcaggact gaagtgaagg atttccagcc ttatttcaaa ggagaaatct 450  
 tcctggatga aaagaaaaag ttctatggtc cacaaggcg gaagatgatg 500  
 tttatgggat ttatccgtct gggagtgtgg tacaacttot tccgagcctg 550  
 gaacggaggc ttctctggaa acctggaagg agaaggcttc atccttgggg 600  
 gagttttcgt ggtgggatca ggaaagcagg gcattttct tgagcaccga 650  
 gaaaaagaat ttggagacaa agtaaaccta ctttctgttc tggaagctgc 700  
 taagatgatc aaaccacaga ctttggcctc agagaaaaaa tgattgtgtg 750  
 aaactgcccga gctcagggat aaccagggac attcacctgt gttcatggga 800  
 tgtattgttt ccaactgtgt ccctaaggag tgagaaaccc atttatactc 850  
 tactctcagt atggattatt aatgtathtt aatattctgt ttaggccac 900  
 taaggcaaaa tagcccaaaa acaagactga caaaaatctg aaaaactaat 950  
 gaggattatt aagctaaaac ctgggaaata ggaggcttaa aattgactgc 1000  
 caggctgggt gcagtggctc acacctgtaa tcccagcact ttgggaggcc 1050  
 aaggtgagca agtcacttga ggtcgggagt tcgagaccag cctgagcaac 1100  
 atggcgaaac cccgtctcta ctaaaaatac aaaaatcacc cgggtgtggt 1150  
 ggcaggcacc tgtagtccca gctaccggg aggctgaggc aggagaatca 1200  
 cttgaacctg ggaggtggag gttgcggtga gctgagatca caccactgta 1250  
 ttccagcctg ggtgactgag actetaacta a 1281

<210> 373  
 <211> 229  
 <212> PRT  
 <213> Homo sapiens

<400> 373  
 Met Ser Phe Leu Gln Asp Pro Ser Phe Phe Thr Met Gly Met Trp  
 1 5 10 15  
 Ser Ile Gly Ala Gly Ala Leu Gly Ala Ala Ala Leu Ala Leu Leu  
 20 25 30  
 Leu Ala Asn Thr Asp Val Phe Leu Ser Lys Pro Gln Lys Ala Ala  
 35 40 45  
 Leu Glu Tyr Leu Glu Asp Ile Asp Leu Lys Thr Leu Glu Lys Glu  
 50 55 60  
 Pro Arg Thr Phe Lys Ala Lys Glu Leu Trp Glu Lys Asn Gly Ala  
 65 70 75  
 Val Ile Met Ala Val Arg Arg Pro Gly Cys Phe Leu Cys Arg Glu  
 80 85 90  
 Glu Ala Ala Asp Leu Ser Ser Leu Lys Ser Met Leu Asp Gln Leu  
 95 100 105  
 Gly Val Pro Leu Tyr Ala Val Val Lys Glu His Ile Arg Thr Glu  
 110 115 120  
 Val Lys Asp Phe Gln Pro Tyr Phe Lys Gly Glu Ile Phe Leu Asp  
 125 130 135  
 Glu Lys Lys Lys Phe Tyr Gly Pro Gln Arg Arg Lys Met Met Phe  
 140 145 150  
 Met Gly Phe Ile Arg Leu Gly Val Trp Tyr Asn Phe Phe Arg Ala  
 155 160 165  
 Trp Asn Gly Gly Phe Ser Gly Asn Leu Glu Gly Glu Gly Phe Ile  
 170 175 180  
 Leu Gly Gly Val Phe Val Val Gly Ser Gly Lys Gln Gly Ile Leu  
 185 190 195  
 Leu Glu His Arg Glu Lys Glu Phe Gly Asp Lys Val Asn Leu Leu  
 200 205 210  
 Ser Val Leu Glu Ala Ala Lys Met Ile Lys Pro Gln Thr Leu Ala  
 215 220 225  
 Ser Glu Lys Lys

<210> 374  
 <211> 744  
 <212> DNA  
 <213> Homo sapiens

<400> 374  
 acggaccgag ggttcgaggg agggacacgg accaggaacc tgagctaggt 50  
 caaagacgcc cgggccaggt gccccgtcgc aggtgcccct ggccggagat 100

gcggtaggag gggcgagcgc gagaagcccc ttcctcggcg ctgccaaccc 150  
gccacccagc ccatggcgaa ccccgggctg gggctgcttc tggcgctggg 200  
cctgccgttc ctgctggccc gctggggccg agcctggggg caaatacaga 250  
ccactttctgc aaatgagaat agcactgttt tgccttcata caccagctcc 300  
agctccgatg gcaacctgcg tccggaagcc atcactgcta tcatogtggg 350  
cttctccctc ttggctgcct tgctcctggc tgtggggctg gcactgttgg 400  
tgcggaagct tcgggagaag cggcagacgg agggcaccta ccggcccagt 450  
agcgaggagc agttctccca tgcagccgag gcccggggcc ctcaggactc 500  
caaggagacg gtgcagggtc gcctgcccac ctagggtcccc tctcctgcat 550  
ctgtctccct tcattgctgt gtgaccttgg ggaaaggcag tgccctctct 600  
gggcagtcag atccaccag tgcttaatag caggaagaa ggtacttcaa 650  
agactctgcc cctgaggtca agagaggatg gggctattca cttttatata 700  
tttatataaa attagtagtg agatgtaaaa aaaaaaaaaa aaaa 744

<210> 375  
<211> 123  
<212> PRT  
<213> Homo sapiens

<400> 375  
Met Ala Asn Pro Gly Leu Gly Leu Leu Leu Ala Leu Gly Leu Pro  
1 5 10 15  
Phe Leu Leu Ala Arg Trp Gly Arg Ala Trp Gly Gln Ile Gln Thr  
20 25 30  
Thr Ser Ala Asn Glu Asn Ser Thr Val Leu Pro Ser Ser Thr Ser  
35 40 45  
Ser Ser Ser Asp Gly Asn Leu Arg Pro Glu Ala Ile Thr Ala Ile  
50 55 60  
Ile Val Val Phe Ser Leu Leu Ala Ala Leu Leu Leu Ala Val Gly  
65 70 75  
Leu Ala Leu Leu Val Arg Lys Leu Arg Glu Lys Arg Gln Thr Glu  
80 85 90  
Gly Thr Tyr Arg Pro Ser Ser Glu Glu Gln Phe Ser His Ala Ala  
95 100 105  
Glu Ala Arg Ala Pro Gln Asp Ser Lys Glu Thr Val Gln Gly Cys  
110 115 120  
Leu Pro Ile

<210> 376  
<211> 713  
<212> DNA  
<213> Homo sapiens

<400> 376  
aatatatcat ctatttatca ttaatcaata atgtattctt ttattccaat 50  
aacatttggg ttttgggatt ttaattttca aacacagcag aatgacattt 100  
tttctgtcac tattattatt gttggtatgt gaagctattt ggagatccaa 150  
ttcaggaagc aacacattgg agaatggcta ctttctatca agaaataaag 200  
agaaccacag tcaaccacac caatcatctt tagaagacag tgtgactcct 250  
accaaagctg tcaaaaccac aggcaagggc atagttaaag gacggaatct 300  
tgactcaaga gggttaattc ttggtgctga agcctggggc aggggtgtaa 350  
agaaaaacac ttagattcaa tgattgtaaa ttttaaggcaa atacacatat 400  
tagtattacc ttagtgtaat gtatccctgt catatataca ataaggtgaa 450  
attataagta ccctatgcag ttggctggac agttctaaat tggactttat 500  
taatttttaa aatcagtaac tgatttatca ctggctatgt gcttagatct 550  
acaggagatc atataatttg atacaaataa aagaaaagtg ttctotcccc 600  
ttacagaatt gacattttta atgcgataca gttagaatag gaaatatgac 650  
attagaaagg aagaatgaca gggagaaagg aaagaaggga aaatgttgcc 700  
aaggaaaaaa aaa 713

<210> 377  
<211> 90  
<212> PRT  
<213> Homo sapiens

<400> 377  
Met Thr Phe Phe Leu Ser Leu Leu Leu Leu Val Cys Glu Ala  
1 5 10 15  
Ile Trp Arg Ser Asn Ser Gly Ser Asn Thr Leu Glu Asn Gly Tyr  
20 25 30  
Phe Leu Ser Arg Asn Lys Glu Asn His Ser Gln Pro Thr Gln Ser  
35 40 45  
Ser Leu Glu Asp Ser Val Thr Pro Thr Lys Ala Val Lys Thr Thr  
50 55 60  
Gly Lys Gly Ile Val Lys Gly Arg Asn Leu Asp Ser Arg Gly Leu  
65 70 75  
Ile Leu Gly Ala Glu Ala Trp Gly Arg Gly Val Lys Lys Asn Thr  
80 85 90

<210> 378  
<211> 3265  
<212> DNA  
<213> Homo sapiens

<400> 378  
gccaggaata actagagagg aacaatgggg ttattcagag gttttgtttt 50

cctcttagtt ctgtgcctgc tgcaccagtc aaatacttcc ttcattaagc 100  
tgaataataa tggctttgaa gatattgtca ttgttataga toctagtgtg 150  
ccagaagatg aaaaaataat tgaacaaata gaggatatgg tgactacagc 200  
ttctacgtac ctgtttgaag ccacagaaaa aagatTTTTT ttcaaaaatg 250  
tatctatatt aattcctgag aattggaagg aaaatcctca gtacaaaagg 300  
ccaaaacatg aaaaccataa acatgctgat gttatagttg caccacctac 350  
actcccaggt agagatgaac catacaccaa gcagttcaca gaatgtggag 400  
agaaaggcga atacattcac ttcacccctg accttctact tggaaaaaaa 450  
caaaatgaat atggaccacc aggcaaactg tttgtccatg agtgggctca 500  
cctccggtgg ggagtgtttg atgagtacaa tgaagatcag cctttctacc 550  
gtgctaagtc aaaaaaatc gaagcaacaa ggtgttccgc aggtatctct 600  
ggtagaaata gagtttataa gtgtcaagga ggcagctgtc ttagtagagc 650  
atgcagaatt gattctacaa caaaactgta tggaaaagat tgtcaattct 700  
ttcctgataa agtacaaaca gaaaaagcat ccataatgtt tatgcaaagt 750  
attgattctg ttgttgaatt ttgtaacgaa aaaaccata atcaagaagc 800  
tccaagccta caaaacataa agtgcaattt tagaagtaca tgggaggtga 850  
ttagcaattc tgaggatttt aaaaacacca taccatgggt gacaccacct 900  
cctccacctg tcttctcatt gctgaagatc agtcaaagaa ttgtgtgctt 950  
agttcttgat aagtctggaa gcatgggggg taaggaccgc ctaaatoaga 1000  
tgaatcaagc agcaaaacat ttctgctgc agactgttga aaatggatcc 1050  
tgggtgggga tggttcactt tgatagtact gccactattg taaataagct 1100  
aatccaaata aaaagcagtg atgaaagaaa cacactcatg gcaggattac 1150  
ctacatatcc tctgggagga acttccatct gctctggaat taaatatgca 1200  
tttcaggtga ttggagagct acattcccaa ctcgatggat ccgaagtact 1250  
gctgctgact gatggggagg ataacactgc aagttcttgt attgatgaag 1300  
tgaaacaaag tggggccatt gttcatttta ttgctttggg aagagctgct 1350  
gatgaagcag taatagagat gagcaagata acaggaggaa gtcattttta 1400  
tgtttcagat gaagctcaga acaatggcct cattgatgct tttggggctc 1450  
ttacatcagg aaatactgat ctctcccaga agtcccttca gctcgaaagt 1500  
aagggattaa cactgaatag taatgcctgg atgaacgaca ctgtcataat 1550  
tgatagtaca gtgggaaagg acacgttctt tctcatcaca tggaacagtc 1600  
tgctcccag tatttctctc tgggatccca gtggaacaat aatggaaaa 1650



ttcacagtgg atgcaacttc caaaatggcc tatctcagta ttccaggaac 1700  
 tgcaaagggtg ggcacttggg catacaatct tcaagccaaa gcgaaccag 1750  
 aaacattaac tattacagta acttctcgag cagcaaattc ttctgtgcct 1800  
 ccaatcacag tgaatgctaa aatgaataag gacgtaaaca gtttccccag 1850  
 cccaatgatt gtttacgcag aaattctaca aggatatgta cctgttcttg 1900  
 gagccaatgt gactgcttcc attgaatcac agaattggaca tacagaagtt 1950  
 ttggaacttt tggataatgg tgcaggcgct gattctttca agaattgatg 2000  
 agtctactcc aggtatttta cagcatatac agaaaatggc agatatagct 2050  
 taaaagtctg ggctcatgga ggagcaaaaca ctgccaggct aaaattacgg 2100  
 cctccactga atagagccgc gtacatacca ggctgggtag tgaacgggga 2150  
 aattgaagca aaccgcgcaa gacctgaaat tgatgaggat actcagacca 2200  
 ccttgaggga tttcagccga acagcatccg gaggtgcatt tgtgggtatca 2250  
 caagtcccaa gccttccctt gcctgaccaa taccaccaa gtcaaatac 2300  
 agaccttgat gccacagttc atgaggataa gattattctt acatggacag 2350  
 caccaggaga taattttgat gttggaaaag ttcaacgtta tatcataaga 2400  
 ataagtgcaa gtattcttga tctaagagac agttttgatg atgctcttca 2450  
 agtaaatact actgatctgt caccaaagga ggccaactcc aaggaaagct 2500  
 ttgcatttaa accagaaaat atctcagaag aaaatgcaac ccacatatct 2550  
 attgccatta aaagtataga taaaagcaat ttgacatcaa aagtatccaa 2600  
 cattgcacaa gtaactttgt ttatccctca agcaaatcct gatgacattg 2650  
 atcctacacc tactcctact cctactccta ctctgataa aagtcataat 2700  
 totggagtta atatttctac gctgggtattg tctgtgattg ggtctgttgt 2750  
 aattgttaac tttattttta gtaccacat ttgaacctta acgaagaaaa 2800  
 aaatcttcaa gtagacctag aagagagttt taaaaaaca aacaatgtaa 2850  
 gtaaaggata tttctgaatc ttaaaattca tcccatgtgt gatcataaac 2900  
 tcataaaaaat aattttaaga tgtcggaata ggatactttg attaaataaa 2950  
 aacactcatg gatagttaaa aactgtcaag attaaaattt aatagtttca 3000  
 tttatttggt attttatttg taagaaatag tgatgaacaa agatcctttt 3050  
 tcatactgat acctggttgt atattatttg atgcaacagt tttctgaaat 3100  
 gatatttcaa attgcatcaa gaaattaaaa tcatctatct gagtagtcaa 3150  
 aatacaagta aaggagagca aataaacaac atttggaata aaaaaaaaaa 3200  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 3250

aaaaaaaaaa aaaaa 3265

<210> 379

<211> 919

<212> PRT

<213> Homo sapiens

<400> 379

Met	Gly	Leu	Phe	Arg	Gly	Phe	Val	Phe	Leu	Leu	Val	Leu	Cys	Leu	
1				5					10					15	
Leu	His	Gln	Ser	Asn	Thr	Ser	Phe	Ile	Lys	Leu	Asn	Asn	Asn	Gly	
				20					25					30	
Phe	Glu	Asp	Ile	Val	Ile	Val	Ile	Asp	Pro	Ser	Val	Pro	Glu	Asp	
				35					40					45	
Glu	Lys	Ile	Ile	Glu	Gln	Ile	Glu	Asp	Met	Val	Thr	Thr	Ala	Ser	
				50					55					60	
Thr	Tyr	Leu	Phe	Glu	Ala	Thr	Glu	Lys	Arg	Phe	Phe	Phe	Lys	Asn	
				65					70					75	
Val	Ser	Ile	Leu	Ile	Pro	Glu	Asn	Trp	Lys	Glu	Asn	Pro	Gln	Tyr	
				80					85					90	
Lys	Arg	Pro	Lys	His	Glu	Asn	His	Lys	His	Ala	Asp	Val	Ile	Val	
				95					100					105	
Ala	Pro	Pro	Thr	Leu	Pro	Gly	Arg	Asp	Glu	Pro	Tyr	Thr	Lys	Gln	
				110					115					120	
Phe	Thr	Glu	Cys	Gly	Glu	Lys	Gly	Glu	Tyr	Ile	His	Phe	Thr	Pro	
				125					130					135	
Asp	Leu	Leu	Leu	Gly	Lys	Lys	Gln	Asn	Glu	Tyr	Gly	Pro	Pro	Gly	
				140					145					150	
Lys	Leu	Phe	Val	His	Glu	Trp	Ala	His	Leu	Arg	Trp	Gly	Val	Phe	
				155					160					165	
Asp	Glu	Tyr	Asn	Glu	Asp	Gln	Pro	Phe	Tyr	Arg	Ala	Lys	Ser	Lys	
				170					175					180	
Lys	Ile	Glu	Ala	Thr	Arg	Cys	Ser	Ala	Gly	Ile	Ser	Gly	Arg	Asn	
				185					190					195	
Arg	Val	Tyr	Lys	Cys	Gln	Gly	Gly	Ser	Cys	Leu	Ser	Arg	Ala	Cys	
				200					205					210	
Arg	Ile	Asp	Ser	Thr	Thr	Lys	Leu	Tyr	Gly	Lys	Asp	Cys	Gln	Phe	
				215					220					225	
Phe	Pro	Asp	Lys	Val	Gln	Thr	Glu	Lys	Ala	Ser	Ile	Met	Phe	Met	
				230					235					240	
Gln	Ser	Ile	Asp	Ser	Val	Val	Glu	Phe	Cys	Asn	Glu	Lys	Thr	His	
				245					250					255	
Asn	Gln	Glu	Ala	Pro	Ser	Leu	Gln	Asn	Ile	Lys	Cys	Asn	Phe	Arg	
				260					265					270	
Ser	Thr	Trp	Glu	Val	Ile	Ser	Asn	Ser	Glu	Asp	Phe	Lys	Asn	Thr	

275										280					285				
Ile	Pro	Met	Val	Thr	Pro	Pro	Pro	Pro	Pro	Val	Phe	Ser	Leu	Leu					
				290						295				300					
Lys	Ile	Ser	Gln	Arg	Ile	Val	Cys	Leu	Val	Leu	Asp	Lys	Ser	Gly					
				305					310					315					
Ser	Met	Gly	Gly	Lys	Asp	Arg	Leu	Asn	Arg	Met	Asn	Gln	Ala	Ala					
				320					325					330					
Lys	His	Phe	Leu	Leu	Gln	Thr	Val	Glu	Asn	Gly	Ser	Trp	Val	Gly					
				335					340					345					
Met	Val	His	Phe	Asp	Ser	Thr	Ala	Thr	Ile	Val	Asn	Lys	Leu	Ile					
				350					355					360					
Gln	Ile	Lys	Ser	Ser	Asp	Glu	Arg	Asn	Thr	Leu	Met	Ala	Gly	Leu					
				365					370					375					
Pro	Thr	Tyr	Pro	Leu	Gly	Gly	Thr	Ser	Ile	Cys	Ser	Gly	Ile	Lys					
				380					385					390					
Tyr	Ala	Phe	Gln	Val	Ile	Gly	Glu	Leu	His	Ser	Gln	Leu	Asp	Gly					
				395					400					405					
Ser	Glu	Val	Leu	Leu	Leu	Thr	Asp	Gly	Glu	Asp	Asn	Thr	Ala	Ser					
				410					415					420					
Ser	Cys	Ile	Asp	Glu	Val	Lys	Gln	Ser	Gly	Ala	Ile	Val	His	Phe					
				425					430					435					
Ile	Ala	Leu	Gly	Arg	Ala	Ala	Asp	Glu	Ala	Val	Ile	Glu	Met	Ser					
				440					445					450					
Lys	Ile	Thr	Gly	Gly	Ser	His	Phe	Tyr	Val	Ser	Asp	Glu	Ala	Gln					
				455					460					465					
Asn	Asn	Gly	Leu	Ile	Asp	Ala	Phe	Gly	Ala	Leu	Thr	Ser	Gly	Asn					
				470					475					480					
Thr	Asp	Leu	Ser	Gln	Lys	Ser	Leu	Gln	Leu	Glu	Ser	Lys	Gly	Leu					
				485					490					495					
Thr	Leu	Asn	Ser	Asn	Ala	Trp	Met	Asn	Asp	Thr	Val	Ile	Ile	Asp					
				500					505					510					
Ser	Thr	Val	Gly	Lys	Asp	Thr	Phe	Phe	Leu	Ile	Thr	Trp	Asn	Ser					
				515					520					525					
Leu	Pro	Pro	Ser	Ile	Ser	Leu	Trp	Asp	Pro	Ser	Gly	Thr	Ile	Met					
				530					535					540					
Glu	Asn	Phe	Thr	Val	Asp	Ala	Thr	Ser	Lys	Met	Ala	Tyr	Leu	Ser					
				545					550					555					
Ile	Pro	Gly	Thr	Ala	Lys	Val	Gly	Thr	Trp	Ala	Tyr	Asn	Leu	Gln					
				560					565					570					
Ala	Lys	Ala	Asn	Pro	Glu	Thr	Leu	Thr	Ile	Thr	Val	Thr	Ser	Arg					
				575					580					585					
Ala	Ala	Asn	Ser	Ser	Val	Pro	Pro	Ile	Thr	Val	Asn	Ala	Lys	Met					

590					595					600				
Asn	Lys	Asp	Val	Asn	Ser	Phe	Pro	Ser	Pro	Met	Ile	Val	Tyr	Ala
				605					610					615
Glu	Ile	Leu	Gln	Gly	Tyr	Val	Pro	Val	Leu	Gly	Ala	Asn	Val	Thr
				620					625					630
Ala	Phe	Ile	Glu	Ser	Gln	Asn	Gly	His	Thr	Glu	Val	Leu	Glu	Leu
				635					640					645
Leu	Asp	Asn	Gly	Ala	Gly	Ala	Asp	Ser	Phe	Lys	Asn	Asp	Gly	Val
				650					655					660
Tyr	Ser	Arg	Tyr	Phe	Thr	Ala	Tyr	Thr	Glu	Asn	Gly	Arg	Tyr	Ser
				665					670					675
Leu	Lys	Val	Arg	Ala	His	Gly	Gly	Ala	Asn	Thr	Ala	Arg	Leu	Lys
				680					685					690
Leu	Arg	Pro	Pro	Leu	Asn	Arg	Ala	Ala	Tyr	Ile	Pro	Gly	Trp	Val
				695					700					705
Val	Asn	Gly	Glu	Ile	Glu	Ala	Asn	Pro	Pro	Arg	Pro	Glu	Ile	Asp
				710					715					720
Glu	Asp	Thr	Gln	Thr	Thr	Leu	Glu	Asp	Phe	Ser	Arg	Thr	Ala	Ser
				725					730					735
Gly	Gly	Ala	Phe	Val	Val	Ser	Gln	Val	Pro	Ser	Leu	Pro	Leu	Pro
				740					745					750
Asp	Gln	Tyr	Pro	Pro	Ser	Gln	Ile	Thr	Asp	Leu	Asp	Ala	Thr	Val
				755					760					765
His	Glu	Asp	Lys	Ile	Ile	Leu	Thr	Trp	Thr	Ala	Pro	Gly	Asp	Asn
				770					775					780
Phe	Asp	Val	Gly	Lys	Val	Gln	Arg	Tyr	Ile	Ile	Arg	Ile	Ser	Ala
				785					790					795
Ser	Ile	Leu	Asp	Leu	Arg	Asp	Ser	Phe	Asp	Asp	Ala	Leu	Gln	Val
				800					805					810
Asn	Thr	Thr	Asp	Leu	Ser	Pro	Lys	Glu	Ala	Asn	Ser	Lys	Glu	Ser
				815					820					825
Phe	Ala	Phe	Lys	Pro	Glu	Asn	Ile	Ser	Glu	Glu	Asn	Ala	Thr	His
				830					835					840
Ile	Phe	Ile	Ala	Ile	Lys	Ser	Ile	Asp	Lys	Ser	Asn	Leu	Thr	Ser
				845					850					855
Lys	Val	Ser	Asn	Ile	Ala	Gln	Val	Thr	Leu	Phe	Ile	Pro	Gln	Ala
				860					865					870
Asn	Pro	Asp	Asp	Ile	Asp	Pro	Thr	Pro	Thr	Pro	Thr	Pro	Thr	Pro
				875					880					885
Thr	Pro	Asp	Lys	Ser	His	Asn	Ser	Gly	Val	Asn	Ile	Ser	Thr	Leu
				890					895					900
Val	Leu	Ser	Val	Ile	Gly	Ser	Val	Val	Ile	Val	Asn	Phe	Ile	Leu

Ser Thr Thr Ile

<210> 380  
<211> 3877  
<212> DNA  
<213> Homo sapiens

<400> 380  
ctccttaggt ggaaaccctg ggagtagagt actgacagca aagaccggga 50  
aagaccatac gtccccgggc aggggtgaca acaggtgtca tctttttgat 100  
ctcgtgtgtg gctgccttcc tatttcaagg aaagacgcca aggtaatttt 150  
gaccagagg agcaatgatg tagccacctc ctaaccttcc cttcttgaac 200  
ccccagttat gccaggattt actagagagt gtcaactcaa ccagcaagcg 250  
gctccttcgg cttaacttgt ggttgaggga gagaaccttt gtggggctgc 300  
gttctcttag cagtgtctag aagtgacttg cctgaggggtg gaccagaaga 350  
aaggaaaggc cccctcttgc tgttggtctgc acatcaggaa ggctgtgatg 400  
ggaatgaagg tgaaaacttg gagatttcac ttcagtcatt gcttctgcct 450  
gcaagatcat cctttaaaag tagagaagct gctctgtgtg gtgggttaact 500  
ccaagaggca gaactcgttc tagaaggaaa tggatgcaag cagctccggg 550  
ggccccaac gcatgcttcc tgtggtctag ccaggggaag cccttccgtg 600  
ggggcccggt ctttgaggga tgccaccggt tctggacgca tggctgattc 650  
ctgaatgatg atggttcgcc gggggctgct tgcgtggatt tcccgggtgg 700  
tggttttgct ggtgctcctc tgctgtgcta tctctgtcct gtacatgttg 750  
gcctgcaccc caaaagggtga cgaggagcag ctggcactgc ccagggccaa 800  
cagccccacg gggaaggagg ggtaccaggc cgtccttcag gagtgggagg 850  
agcagcaccg caactacgtg agcagcctga agcggcagat cgcacagctc 900  
aaggaggagc tgcaggagag gagtgagcag ctcaggaaatg ggcagtacca 950  
agccagcgat gctgctggcc tgggtctgga caggagcccc ccagagaaaa 1000  
cccaggcga cctcctggcc ttcctgcact cgcagggtgga caaggcagag 1050  
gtgaatgctg gcgtcaagct ggccacagag tatgcagcag tgcctttcga 1100  
tagctttact ctacagaagg tgtaccagct ggagactggc cttaccgcgc 1150  
accccgagga gaagcctgtg aggaaggaca agcgggatga gttggtggaa 1200  
gccattgaat cagccttgga gaccctgaac aatcctgcag agaacagccc 1250  
caatcacogt ccttacacgg cctctgattt catagaaggg atctaccgaa 1300

cagaaaggga caaagggaca ttgtatgagc tcaccttcaa aggggaccac 1350  
aaacacgaat tcaaacggct catcttattt cgaccattca gcccacatcat 1400  
gaaagtgaat aatgaaaagc tcaacatggc caacacgctt atcaatgtta 1450  
tcgtgcctct agcaaaaagg gtggacaagt tccggcagtt catgcagaat 1500  
ttcagggaga tgtgcattga gcaggatggg agagtccatc tctactgttg 1550  
ttactttggg aaagaagaaa taaatgaagt caaaggaata cttgaaaaca 1600  
cttccaaagc tgccaacttc aggaacttta ccttcatcca gctgaatgga 1650  
gaattttctc ggggaaaggg acttgatggt ggagcccgct tctggaaggg 1700  
aagcaacgtc cttctctttt tctgtgatgt ggacatctac ttcacatctg 1750  
aattcctcaa tacgtgtagg ctgaatacac agccaggga gaaggtattt 1800  
tatccagttc ttttcagtca gtacaatcct ggcataatat acggccacca 1850  
tgatgcagtc cctcccttgg aacagcagct ggtcataaag aaggaaactg 1900  
gattttggag agactttgga tttgggatga cgtgtcagta tccgtcagac 1950  
ttcatcaata taggtgggtt tgatctggac atcaaaggct ggggcggaga 2000  
ggatgtgcac ctttatcgca agtatctcca cagcaacctc atagtggtag 2050  
ggacgcctgt gcgaggactc ttccacctct ggcatgagaa gcgctgcatg 2100  
gacgagctga ccccgagca gtacaagatg tgcagtcagt ccaaggccat 2150  
gaacgaggca tcccacggcc agctgggcat gctgggtgtc aggcacgaga 2200  
tagaggctca ccttcgcaaa cagaaacaga agacaagtag caaaaaaaca 2250  
tgaactccca gagaaggatt gtgggagaca cttttctttt ccttttgcaa 2300  
ttactgaaag tggctgcaac agagaaaaga cttccataaa ggacgacaaa 2350  
agaattggac tgatgggtca gagatgagaa agcctccgat ttctctctgt 2400  
tgggcttttt acaacagaaa tcaaatctc cgctttgcct gcaaaagtaa 2450  
cccagttgca ccctgtgaag tgtctgacaa aggcagaatg cttgtgagat 2500  
tataagccta atgggtgtga ggttttgatg gtgtttacaa tacactgaga 2550  
cctgttggtt tgtgtgctca ttgaaatatt catgatttaa gagcagtttt 2600  
gtaaaaaatt cattagcatg aaaggcaagc atatttctcc tcatatgaat 2650  
gagcctatca gcagggtctt agtttctagg aatgctaaaa tatcagaagg 2700  
caggagagga gataggctta ttatgatact agtgagtaca ttaagtaaaa 2750  
taaaatggac cagaaaagaa aagaaccat aaatatcgtg tcatattttc 2800  
cccaagatta accaaaaata atctgcttat ctttttggtt gtccttttaa 2850  
ctgtctccgt tttttctttt tatttaaaaa tgcacttttt ttcccttggt 2900

agttatagtc tgcttattta attaccactt tgcaagcctt acaagagagc 2950  
 acaagttggc ctacattttt atatttttta agaagatact ttgagatgca 3000  
 ttatgagaac tttcagttca aagcatcaaa ttgatgccat atccaaggac 3050  
 atgccaaatg ctgattctgt caggcactga atgtcaggca ttgagacata 3100  
 gggaaggaat ggtttgtact aatacagacg tacagatact ttctctgaag 3150  
 agtatttttcg aagaggagca actgaacact ggaggaaaag aaaatgacac 3200  
 ttctctgcttt acagaaaagg aaactcattc agactgggtga tatcgtgatg 3250  
 tacctaaaag tcagaaacca cattttctcc tcagaagtag ggaccgcttt 3300  
 cttacctgtt taaataaacc aaagtatacc gtgtgaacca aacaatctct 3350  
 tttcaaaaca ggggtgctcct cctggcttct ggcttcata agaagaaatg 3400  
 gagaaaaata tatatatata tatatatatt gtgaaagatc aatccatctg 3450  
 ccagaatcta gtgggatgga agtttttgct acatgttatc caccacaggc 3500  
 cagggtggaag taactgaatt attttttaaa ttaagcagtt ctactcaatc 3550  
 accaagatgc ttctgaaaat tgcattttat taccatttca aactattttt 3600  
 taaaaataaa tacagttaac atagagtggc ttcttcattc atgtgaaaat 3650  
 tattagccag caccagatgc atgagctaata tatctctttg agtccttgc 3700  
 tctgtttgct cacagtaaac tcattgttta aaagcttcaa gaacattcaa 3750  
 gctgttggtg tggttaaaaaa tgcattgtat tgatttgtac tggtagttta 3800  
 tgaaatttaa ttaaaacaca ggccatgaat ggaaggtggc attgcacagc 3850  
 taataaaata tgatttgtgg atatgaa 3877

<210> 381  
 <211> 532  
 <212> PRT  
 <213> Homo sapiens

<400> 381  
 Met Met Met Val Arg Arg Gly Leu Leu Ala Trp Ile Ser Arg Val  
 1 5 10 15  
 Val Val Leu Leu Val Leu Leu Cys Cys Ala Ile Ser Val Leu Tyr  
 20 25 30  
 Met Leu Ala Cys Thr Pro Lys Gly Asp Glu Glu Gln Leu Ala Leu  
 35 40 45  
 Pro Arg Ala Asn Ser Pro Thr Gly Lys Glu Gly Tyr Gln Ala Val  
 50 55 60  
 Leu Gln Glu Trp Glu Glu Gln His Arg Asn Tyr Val Ser Ser Leu  
 65 70 75  
 Lys Arg Gln Ile Ala Gln Leu Lys Glu Glu Leu Gln Glu Arg Ser  
 80 85 90

Glu	Gln	Leu	Arg	Asn	Gly	Gln	Tyr	Gln	Ala	Ser	Asp	Ala	Ala	Gly	
				95					100					105	
Leu	Gly	Leu	Asp	Arg	Ser	Pro	Pro	Glu	Lys	Thr	Gln	Ala	Asp	Leu	
				110					115					120	
Leu	Ala	Phe	Leu	His	Ser	Gln	Val	Asp	Lys	Ala	Glu	Val	Asn	Ala	
				125					130					135	
Gly	Val	Lys	Leu	Ala	Thr	Glu	Tyr	Ala	Ala	Val	Pro	Phe	Asp	Ser	
				140					145					150	
Phe	Thr	Leu	Gln	Lys	Val	Tyr	Gln	Leu	Glu	Thr	Gly	Leu	Thr	Arg	
				155					160					165	
His	Pro	Glu	Glu	Lys	Pro	Val	Arg	Lys	Asp	Lys	Arg	Asp	Glu	Leu	
				170					175					180	
Val	Glu	Ala	Ile	Glu	Ser	Ala	Leu	Glu	Thr	Leu	Asn	Asn	Pro	Ala	
				185					190					195	
Glu	Asn	Ser	Pro	Asn	His	Arg	Pro	Tyr	Thr	Ala	Ser	Asp	Phe	Ile	
				200					205					210	
Glu	Gly	Ile	Tyr	Arg	Thr	Glu	Arg	Asp	Lys	Gly	Thr	Leu	Tyr	Glu	
				215					220					225	
Leu	Thr	Phe	Lys	Gly	Asp	His	Lys	His	Glu	Phe	Lys	Arg	Leu	Ile	
				230					235					240	
Leu	Phe	Arg	Pro	Phe	Ser	Pro	Ile	Met	Lys	Val	Lys	Asn	Glu	Lys	
				245					250					255	
Leu	Asn	Met	Ala	Asn	Thr	Leu	Ile	Asn	Val	Ile	Val	Pro	Leu	Ala	
				260					265					270	
Lys	Arg	Val	Asp	Lys	Phe	Arg	Gln	Phe	Met	Gln	Asn	Phe	Arg	Glu	
				275					280					285	
Met	Cys	Ile	Glu	Gln	Asp	Gly	Arg	Val	His	Leu	Thr	Val	Val	Tyr	
				290					295					300	
Phe	Gly	Lys	Glu	Glu	Ile	Asn	Glu	Val	Lys	Gly	Ile	Leu	Glu	Asn	
				305					310					315	
Thr	Ser	Lys	Ala	Ala	Asn	Phe	Arg	Asn	Phe	Thr	Phe	Ile	Gln	Leu	
				320					325					330	
Asn	Gly	Glu	Phe	Ser	Arg	Gly	Lys	Gly	Leu	Asp	Val	Gly	Ala	Arg	
				335					340					345	
Phe	Trp	Lys	Gly	Ser	Asn	Val	Leu	Leu	Phe	Phe	Cys	Asp	Val	Asp	
				350					355					360	
Ile	Tyr	Phe	Thr	Ser	Glu	Phe	Leu	Asn	Thr	Cys	Arg	Leu	Asn	Thr	
				365					370					375	
Gln	Pro	Gly	Lys	Lys	Val	Phe	Tyr	Pro	Val	Leu	Phe	Ser	Gln	Tyr	
				380					385					390	
Asn	Pro	Gly	Ile	Ile	Tyr	Gly	His	His	Asp	Ala	Val	Pro	Pro	Leu	
				395					400					405	



Glu	Gln	Gln	Leu	Val	Ile	Lys	Lys	Glu	Thr	Gly	Phe	Trp	Arg	Asp	
				410					415					420	
Phe	Gly	Phe	Gly	Met	Thr	Cys	Gln	Tyr	Arg	Ser	Asp	Phe	Ile	Asn	
				425					430					435	
Ile	Gly	Gly	Phe	Asp	Leu	Asp	Ile	Lys	Gly	Trp	Gly	Gly	Glu	Asp	
				440					445					450	
Val	His	Leu	Tyr	Arg	Lys	Tyr	Leu	His	Ser	Asn	Leu	Ile	Val	Val	
				455					460					465	
Arg	Thr	Pro	Val	Arg	Gly	Leu	Phe	His	Leu	Trp	His	Glu	Lys	Arg	
				470					475					480	
Cys	Met	Asp	Glu	Leu	Thr	Pro	Glu	Gln	Tyr	Lys	Met	Cys	Met	Gln	
				485					490					495	
Ser	Lys	Ala	Met	Asn	Glu	Ala	Ser	His	Gly	Gln	Leu	Gly	Met	Leu	
				500					505					510	
Val	Phe	Arg	His	Glu	Ile	Glu	Ala	His	Leu	Arg	Lys	Gln	Lys	Gln	
				515					520					525	
Lys	Thr	Ser	Ser	Lys	Lys	Thr									
				530											

<210> 382  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 382  
 ctcggggaaa gggacttgat gttgg 25  
  
 <210> 383  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 383  
 gcgaaggtga gcctctatct cgtgcc 26  
  
 <210> 384  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 384  
 cagcctacac gtattgagg 19  
  
 <210> 385  
 <211> 48  
 <212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 385

cagtcagtac aatcctggca taatatacgg ccacccatgat gcagtcac 48

<210> 386

<211> 1346

<212> DNA

<213> Homo sapiens

<400> 386

gaaagaatgt tgtggctgct cttttttctg gtgactgcca ttcattgctga 50  
actctgtcaa ccagggtgcag aaaatgcttt taaagtgaga cttagtatca 100  
gaacagctct gggagataaa gcatatgcct gggataccaa tgaagaatac 150  
ctcttcaaag cgatggtagc tttctccatg agaaaagttc ccaacagaga 200  
agcaacagaa atttcccatg tctactttg caatgtaacc cagaggggtat 250  
cattctgggt tgtgggttaca gacccttcaa aaaatcacac ccttctgct 300  
gttgagggtgc aatcagccat aagaatgaac aagaaccgga tcaacaatgc 350  
cttcttttcta aatgacaaaa ctctggaatt tttaaaaatc ccttccacac 400  
ttgcaccacc catggaccca tctgtgcca tctggattat tatatttgggt 450  
gtgatatttt gcatcatcat agttgcaatt gcactactga ttttatcagg 500  
gatctggcaa cgtagaagaa agaacaaaga accatctgaa gtggatgacg 550  
ctgaagataa gtgtgaaaac atgatcacia ttgaaaatgg catccccctct 600  
gatccccctg acatgaaggg gggcatatta atgatgcctt catgacagag 650  
gatgagaggc tccccctct ctgaagggt gttgttctgc ttctcaaga 700  
aattaaacat ttgtttctgt gtgactgctg agcatcctga aataccaaga 750  
gcagatcata tattttgttt caccattctt cttttgtaat aaattttgaa 800  
tgtgcttgaa agtgaaaagc aatcaattat accaccaac accactgaaa 850  
tcataagcta ttcacgactc aaaatattct aaaatatttt tctgacagta 900  
tagtgtataa atgtgggtcat gtgggtatttg tagttattga ttttaagcatt 950  
tttagaaata agatcaggca tatgtatata ttttcacact tcaaagacct 1000  
aaggaaaaat aaattttcca gtggagaata catataatat ggtgtagaaa 1050  
tcattgaaaa tggatccttt ttgacgatca cttatatcac tctgtatatg 1100  
actaagtaaa caaaagttag aagtaattat tgtaaatgga tggataaaaa 1150  
tggaattact catatacagg gtggaatttt atcctgttat cacaccaaca 1200  
gttgattata tattttctga atatcagccc ctaataggac aattctattt 1250

gttgaccatt tctacaattt gtaaaagtcc aatctgtgct aacttaataa 1300

agtaataatc atctcttttt aaaaaaaaaa aaaaaaaaaa aaaaaa 1346

<210> 387

<211> 212

<212> PRT

<213> Homo sapiens

<400> 387

Met Leu Trp Leu Leu Phe Phe Leu Val Thr Ala Ile His Ala Glu  
1 5 10 15

Leu Cys Gln Pro Gly Ala Glu Asn Ala Phe Lys Val Arg Leu Ser  
20 25 30

Ile Arg Thr Ala Leu Gly Asp Lys Ala Tyr Ala Trp Asp Thr Asn  
35 40 45

Glu Glu Tyr Leu Phe Lys Ala Met Val Ala Phe Ser Met Arg Lys  
50 55 60

Val Pro Asn Arg Glu Ala Thr Glu Ile Ser His Val Leu Leu Cys  
65 70 75

Asn Val Thr Gln Arg Val Ser Phe Trp Phe Val Val Thr Asp Pro  
80 85 90

Ser Lys Asn His Thr Leu Pro Ala Val Glu Val Gln Ser Ala Ile  
95 100 105

Arg Met Asn Lys Asn Arg Ile Asn Asn Ala Phe Phe Leu Asn Asp  
110 115 120

Gln Thr Leu Glu Phe Leu Lys Ile Pro Ser Thr Leu Ala Pro Pro  
125 130 135

Met Asp Pro Ser Val Pro Ile Trp Ile Ile Ile Phe Gly Val Ile  
140 145 150

Phe Cys Ile Ile Ile Val Ala Ile Ala Leu Leu Ile Leu Ser Gly  
155 160 165

Ile Trp Gln Arg Arg Arg Lys Asn Lys Glu Pro Ser Glu Val Asp  
170 175 180

Asp Ala Glu Asp Lys Cys Glu Asn Met Ile Thr Ile Glu Asn Gly  
185 190 195

Ile Pro Ser Asp Pro Leu Asp Met Lys Gly Gly Ile Leu Met Met  
200 205 210

Pro Ser

<210> 388

<211> 1371

<212> DNA

<213> Homo sapiens

<400> 388

aactcaaaact cctctctctg ggaaaacgcg gtgcttgctc ctcccggagt 50

ggcccttgga ggggtgttga gccctcggtc tgccccgtcc ggtctctggg 100  
 gccaaaggctg gggttccctc atgtatggca agagctctac tcgtgcgggtg 150  
 cttcttctcc ttggcataca gctcacagct ctttggccta tagcagctgt 200  
 ggaaatttat acctcccggg tgctggaggc tgtaaatggg acagatgctc 250  
 gggttaaatg cactttctcc agctttgccc ctgtgggtga tgctctaaca 300  
 gtgacctgga attttcgtcc tctagacggg ggacctgagc agtttgtatt 350  
 ctactaccac atagatccct tccaacccat gagtgggagg ttttaaggacc 400  
 ggggtgtcttg ggatgggaat cctgagcggg acgatgcctc catccttctc 450  
 tggaaactgc agttcgacga caatgggaca tacacctgcc aggtgaagaa 500  
 cccacctgat gttgatgggg tgatagggga gatccggctc agcgctcgtgc 550  
 aactgtacg cttctctgag atccacttcc tggctctggc cattggctct 600  
 gcctgtgcac tgatgatcat aatagtaatt gtagtgggtc tcttccagca 650  
 ttaccggaaa aagcgatggg ccgaaagagc tcataaagtg gtggagataa 700  
 aatcaaaaga agaggaaagg ctcaaccaag agaaaaaggt ctctgtttat 750  
 ttagaagaca cagactaaca atttttagatg gaagctgaga tgatttccaa 800  
 gaacaagaac cctagtattt cttgaagtta atggaaaactt ttctttgggt 850  
 tttccagttg tgacctgttt tccaaccagt tctgcagcat attagattct 900  
 agacaagcaa caccctctg gagccagcac agtgctcctc catatcacca 950  
 gtcatacaca gcctcattat taaggctcta ttttaattca gagtgtaaat 1000  
 tttttcaagt gctcattagg ttttataaac aagaagctac atttttgccc 1050  
 ttaagacact acttacagtg ttatgacttg tatacacata tattgggtatc 1100  
 aaaggggata aaagccaatt tgtctgttac atttcctttc acgtatttct 1150  
 tttagcagca cttctgttac taaagttaat gtgtttactc tctttccttc 1200  
 ccacattctc aattaaaagg tgagctaagc ctctcggtg tttctgatta 1250  
 acagtaaata ctaaattcaa actgttaaata gacattttta tttttatgtc 1300  
 tctccttaac tatgagacac atcttgtttt actgaatttc tttcaatatt 1350  
 ccaggtgata gatttttgtc g 1371

<210> 389  
 <211> 215  
 <212> PRT  
 <213> Homo sapiens

<400> 389  
 Met Tyr Gly Lys Ser Ser Thr Arg Ala Val Leu Leu Leu Leu Gly  
 1 5 10 15

Ile	Gln	Leu	Thr	Ala	Leu	Trp	Pro	Ile	Ala	Ala	Val	Glu	Ile	Tyr	20	25	30
Thr	Ser	Arg	Val	Leu	Glu	Ala	Val	Asn	Gly	Thr	Asp	Ala	Arg	Leu	35	40	45
Lys	Cys	Thr	Phe	Ser	Ser	Phe	Ala	Pro	Val	Gly	Asp	Ala	Leu	Thr	50	55	60
Val	Thr	Trp	Asn	Phe	Arg	Pro	Leu	Asp	Gly	Gly	Pro	Glu	Gln	Phe	65	70	75
Val	Phe	Tyr	Tyr	His	Ile	Asp	Pro	Phe	Gln	Pro	Met	Ser	Gly	Arg	80	85	90
Phe	Lys	Asp	Arg	Val	Ser	Trp	Asp	Gly	Asn	Pro	Glu	Arg	Tyr	Asp	95	100	105
Ala	Ser	Ile	Leu	Leu	Trp	Lys	Leu	Gln	Phe	Asp	Asp	Asn	Gly	Thr	110	115	120
Tyr	Thr	Cys	Gln	Val	Lys	Asn	Pro	Pro	Asp	Val	Asp	Gly	Val	Ile	125	130	135
Gly	Glu	Ile	Arg	Leu	Ser	Val	Val	His	Thr	Val	Arg	Phe	Ser	Glu	140	145	150
Ile	His	Phe	Leu	Ala	Leu	Ala	Ile	Gly	Ser	Ala	Cys	Ala	Leu	Met	155	160	165
Ile	Ile	Ile	Val	Ile	Val	Val	Val	Leu	Phe	Gln	His	Tyr	Arg	Lys	170	175	180
Lys	Arg	Trp	Ala	Glu	Arg	Ala	His	Lys	Val	Val	Glu	Ile	Lys	Ser	185	190	195
Lys	Glu	Glu	Glu	Arg	Leu	Asn	Gln	Glu	Lys	Lys	Val	Ser	Val	Tyr	200	205	210
Leu	Glu	Asp	Thr	Asp											215		

<210> 390

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 390

ccgaggccat ctagaggcca gagc 24

<210> 391

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 391

acaggcagag ccaatggcca gagc 24

<210> 392  
<211> 45  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 392  
gagaggactg cgggagtttg ggacctttgt gcagacgtgc tcatg 45

<210> 393  
<211> 471  
<212> DNA  
<213> Homo sapiens

<400> 393  
gcatttttct ctgtgctccc tgatcttcag gtcaccacca tgaagttctt 50  
agcagtcctg gtactcttgg gagtttccat ctttctggtc tctgcccaga 100  
atccgacaac agctgctcca gctgacacgt atccagctac tggctcctgct 150  
gatgatgaag cccctgatgc tgaaccact gctgctgcaa ccaactgcgac 200  
cactgctgct cctaccactg caaccaccgc tgcttctacc actgctogta 250  
aagacattcc agttttaccc aaatgggttg gggatctccc gaatggtaga 300  
gtgtgtccct gagatggaat cagcttgagt cttctgcaat tggtcacaac 350  
tattcatgct tcctgtgatt tcatccaact acttaccttg cctacgatat 400  
cccctttatc tctaatacgt ttattttctt tcaaataaaa aataactatg 450  
agcaacataa aaaaaaaaaa a 471

<210> 394  
<211> 90  
<212> PRT  
<213> Homo sapiens

<400> 394  
Met Lys Phe Leu Ala Val Leu Val Leu Leu Gly Val Ser Ile Phe  
1 5 10 15  
Leu Val Ser Ala Gln Asn Pro Thr Thr Ala Ala Pro Ala Asp Thr  
20 25 30  
Tyr Pro Ala Thr Gly Pro Ala Asp Asp Glu Ala Pro Asp Ala Glu  
35 40 45  
Thr Thr Ala Ala Ala Thr Thr Ala Thr Thr Ala Ala Pro Thr Thr  
50 55 60  
Ala Thr Thr Ala Ala Ser Thr Thr Ala Arg Lys Asp Ile Pro Val  
65 70 75  
Leu Pro Lys Trp Val Gly Asp Leu Pro Asn Gly Arg Val Cys Pro  
80 85 90

<210> 395  
<211> 25

<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 395  
gctccctgat cttcatgtca ccacc 25

<210> 396  
<211> 26  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 396  
cagggacaca ctctaccatt cgggag 26

<210> 397  
<211> 42  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 397  
ccatcttttct ggtctctgcc cagaatccga caacagctgc tc 42

<210> 398  
<211> 907  
<212> DNA  
<213> Homo sapiens

<400> 398  
ggactctgaa ggtcccaagc agctgctgag gcccccaagg aagtgggttcc 50  
aaccttggac ccctaggggt ctggatttgc tggttaacaa gataacctga 100  
gggcaggacc ccatagggga atgctacctc ctgcccttcc acctgcoctg 150  
gtgttcacgg tggcctggtc cctccttgcc gagagagtgt cctgggtcag 200  
ggacgcagag gacgctcaca gactccagcc ctttgttacc gagaggacac 250  
ttggcaaggt ccagcgatgg tccggagtcc acacacagac tggcggcagg 300  
gcaggagggg gacagttctg ttgtgcttgg ttggacagta agaggggtctt 350  
ggccagtcca ggggtggggg cggaactc cataaagaac cagaggggtct 400  
gggccccggc cacagagtca tctgcccagc tcctctgctg ctggccagtg 450  
ggagtggcac gaggtggggc tttgtgccag taaaaccaca ggctggattt 500  
gcctgcgggc catggtccct gtctagggca gcaattctca accttcttgc 550  
tctcaggacc ccaaagagct ttcattgtat ctattgattt ttaccacatt 600  
agcaattaaa actgagaaat gggccgggca cggtgggtca cgcctgtaat 650

cccagcactt tgggaggccg aggcgggtgg atcacctgag atcaggagtt 700  
 caagaccagc ctggccaaca tgggtgaaacc ttgtctacta aaaatacaaa 750  
 aaattagcca ggcacagtgg tgtgcactgg tagtcccagt tactcgggag 800  
 gctgaggcag gaaaatcgct tgaaccacag aggcggacgt tgcggtgagc 850  
 cgagatcgcg ccgctgattc cagcctgggc gacaagagtg agactccatc 900  
 tcacaca 907

<210> 399  
 <211> 120  
 <212> PRT  
 <213> Homo sapiens

<400> 399  
 Met Leu Pro Pro Ala Leu Pro Pro Ala Leu Val Phe Thr Val Ala  
 1 5 10 15  
 Trp Ser Leu Leu Ala Glu Arg Val Ser Trp Val Arg Asp Ala Glu  
 20 25 30  
 Asp Ala His Arg Leu Gln Pro Phe Val Thr Glu Arg Thr Leu Gly  
 35 40 45  
 Lys Val Gln Arg Trp Ser Gly Val His Thr Gln Thr Gly Gly Arg  
 50 55 60  
 Ala Gly Gly Gly Gln Phe Cys Cys Ala Trp Leu Asp Ser Lys Arg  
 65 70 75  
 Val Leu Ala Ser Pro Gly Trp Gly Ala Ala Asn Ser Ile Lys Asn  
 80 85 90  
 Gln Arg Val Trp Ala Pro Ala Thr Glu Ser Ser Ala Gln Leu Leu  
 95 100 105  
 Cys Cys Trp Pro Val Gly Val Ala Arg Gly Gly Ala Leu Cys Gln  
 110 115 120

<210> 400  
 <211> 893  
 <212> DNA  
 <213> Homo sapiens

<400> 400  
 gtcattgccag tgctgtctct gtgcctgctc tgggccctgg caatggtgac 50  
 ccggcctgcc tcagcggccc ccattggcgg ccagaaactg gcacagcatg 100  
 aggagctgac cctgctcttc catgggaccc tgcagctggg ccaggccctc 150  
 aacggtgtgt acaggaccac ggaggacgg ctgacaaagg ccaggaacag 200  
 cctgggtctc tatggccgca caatagaact cctggggcag gaggtcagcc 250  
 ggggcccggga tgcagcccag gaacttcggg caagcctgtt ggagactcag 300  
 atggaggagg atattctgca gctgcaggca gaggccacag ctgaggtgct 350  
 gggggagggtg gcccaggcac agaaggtgct acgggacagc gtgcagcggc 400



tagaagtcca gctgaggagc gcctggctgg gccctgccta ccgagaattt 450  
 gaggtcttaa aggtcacgc tgacaagcag agccacatcc tatgggccct 500  
 cacaggccac gtgcagcggc agaggcggga gatggtggca cagcagcatc 550  
 ggctgcgaca gatccaggag agactccaca cagcggcgct cccagcctga 600  
 atctgcctgg atggaactga ggaccaatca tgctgcaagg aacacttcca 650  
 cgccccgtga ggccccctgtg cagggaggag ctgcctgttc actgggatca 700  
 gccagggcgc cgggccccac ttctgagcac agagcagaga cagacgcagg 750  
 cggggacaaa ggagaggat gtagcccat tggggagggg tggaggaagg 800  
 acatgtaccc tttcatgcct acacaccct cattaagca gagtctggc 850  
 atttcaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaa 893

<210> 401  
 <211> 198  
 <212> PRT  
 <213> Homo sapiens

<400> 401  
 Met Pro Val Pro Ala Leu Cys Leu Leu Trp Ala Leu Ala Met Val  
 1 5 10 15  
 Thr Arg Pro Ala Ser Ala Ala Pro Met Gly Gly Pro Glu Leu Ala  
 20 25 30  
 Gln His Glu Glu Leu Thr Leu Leu Phe His Gly Thr Leu Gln Leu  
 35 40 45  
 Gly Gln Ala Leu Asn Gly Val Tyr Arg Thr Thr Glu Gly Arg Leu  
 50 55 60  
 Thr Lys Ala Arg Asn Ser Leu Gly Leu Tyr Gly Arg Thr Ile Glu  
 65 70 75  
 Leu Leu Gly Gln Glu Val Ser Arg Gly Arg Asp Ala Ala Gln Glu  
 80 85 90  
 Leu Arg Ala Ser Leu Leu Glu Thr Gln Met Glu Glu Asp Ile Leu  
 95 100 105  
 Gln Leu Gln Ala Glu Ala Thr Ala Glu Val Leu Gly Glu Val Ala  
 110 115 120  
 Gln Ala Gln Lys Val Leu Arg Asp Ser Val Gln Arg Leu Glu Val  
 125 130 135  
 Gln Leu Arg Ser Ala Trp Leu Gly Pro Ala Tyr Arg Glu Phe Glu  
 140 145 150  
 Val Leu Lys Ala His Ala Asp Lys Gln Ser His Ile Leu Trp Ala  
 155 160 165  
 Leu Thr Gly His Val Gln Arg Gln Arg Arg Glu Met Val Ala Gln  
 170 175 180  
 Gln His Arg Leu Arg Gln Ile Gln Glu Arg Leu His Thr Ala Ala

Leu Pro Ala

<210> 402

<211> 1915

<212> DNA

<213> Homo sapiens

<400> 402

ggcaacatgg ctcagcaggc ttgccccaga gccatggcaa agaatggact 50  
tgtaatttgc atcctggtga tcaccttact cctggaccag accaccagcc 100  
acacatccag attaaaagcc aggaagcaca gcaaacgtcg agtgagagac 150  
aaggatggag atctgaagac tcaaattgaa aagctctgga cagaagtcaa 200  
tgccttgaag gaaattcaag ccctgcagac agtctgtctc cgaggcacta 250  
aagttcacaa gaaatgctac ctgcttcag aaggtttgaa gcatttccat 300  
gaggccaatg aagactgcat ttccaaagga ggaatcctgg ttatccccag 350  
gaactccgac gaaatcaacg ccctccaaga ctatggtaaa aggagcctgc 400  
caggtgtcaa tgacttttgg ctgggcatca atgacatggc cacggaaggc 450  
aagtttgttg acgtcaacgg aatcgctatc tccttctca actgggaccg 500  
tgcacagcct aacggtggca agcgagaaaa ctgtgtcctg ttctcccaat 550  
cagctcaggg caagtggagt gatgaggcct gtcgcagcag caagagatac 600  
atatgcgagt tcaccatccc taaataggtc tttctccaat gtgtcctcca 650  
agcaagattc atcataactt ataggttcat gatctctaag atcaagtaaa 700  
aatcataatt tttacttatt aaaaaattgc aacacaagat caatgtccat 750  
agcaatatga tagcatcagc caattttgct aacacatttc tttgggattt 800  
tgcccttcct ggggtatagg ggatcagaaa tattgatcca tgtgcacgca 850  
gataaaatgg cttctgctaa acagactaaa atctttctct ctagtctttc 900  
tcacttgtac aaaccagtt tgttttcaaa aaatcacagt agcaatgcaa 950  
ctcatcactc tagaaaagca agcttaggct acctgaaaga ttttcccttg 1000  
gaagtttagc gtatgtttga ctaacaaaaa ttccctacat cagagactct 1050  
agggtgctata taatccaaaa acttttcagc ctgttgctca ttctgtccca 1100  
tgctggcaat aataccttgt cagccatta cccttatttt gaattgctcc 1150  
atctcctggg gggacttgta tcttgtctgc catatcagaa cacaaacccc 1200  
tgaagagggt ctgatttgat tttttttttt tottcatgcc tacccttttt 1250  
ttggaagttt ccagccgcaa tttgaaatga aatgacaagg tgtatatttg 1300

atcaattttc attcccacca ttgcattaca acctctaact taaatgggta 1350  
 accctaaggc atatcaaaga agcagattgc atgataaacg gaaatagaaa 1400  
 aaaagaacct acattttattt tgcttttagca tccttactct caccttttat 1450  
 gagattgaga gtggacttac atttcctttt ttacattttc gtatatattat 1500  
 ttttttttagc catcattata tgtttaagtc tattatgggc aaccaatctt 1550  
 tggaagctga aaactgaatt taaagaatgc tatcttggaa aattgcatac 1600  
 gtctgtgcaa ttttttattc tgcctagtagc tattctgctt gtttaactag 1650  
 attgtacaaa ataacttcat tgcttaatat caaattacaa agtttagact 1700  
 tggagggaaa tgggcttttt agaagcaaac aatttttaa atattttgtt 1750  
 cttcaaataa atagtgttta aacattgaat gtgttttggtg aacaatatcc 1800  
 cactttgcaa actttaacta cacatgcttg gaattaagtt ttagctgttt 1850  
 tcattgctca ataataaagc ctgaattctg atcaataaaa aaaaaaaaaa 1900  
 aaaaaaaaaa aaaaa 1915

<210> 403  
 <211> 206  
 <212> PRT  
 <213> Homo sapiens

<400> 403  
 Met Ala Gln Gln Ala Cys Pro Arg Ala Met Ala Lys Asn Gly Leu  
 1 5 10 15  
 Val Ile Cys Ile Leu Val Ile Thr Leu Leu Leu Asp Gln Thr Thr  
 20 25 30  
 Ser His Thr Ser Arg Leu Lys Ala Arg Lys His Ser Lys Arg Arg  
 35 40 45  
 Val Arg Asp Lys Asp Gly Asp Leu Lys Thr Gln Ile Glu Lys Leu  
 50 55 60  
 Trp Thr Glu Val Asn Ala Leu Lys Glu Ile Gln Ala Leu Gln Thr  
 65 70 75  
 Val Cys Leu Arg Gly Thr Lys Val His Lys Lys Cys Tyr Leu Ala  
 80 85 90  
 Ser Glu Gly Leu Lys His Phe His Glu Ala Asn Glu Asp Cys Ile  
 95 100 105  
 Ser Lys Gly Gly Ile Leu Val Ile Pro Arg Asn Ser Asp Glu Ile  
 110 115 120  
 Asn Ala Leu Gln Asp Tyr Gly Lys Arg Ser Leu Pro Gly Val Asn  
 125 130 135  
 Asp Phe Trp Leu Gly Ile Asn Asp Met Val Thr Glu Gly Lys Phe  
 140 145 150  
 Val Asp Val Asn Gly Ile Ala Ile Ser Phe Leu Asn Trp Asp Arg

	155		160		165
Ala Gln Pro Asn	Gly Gly Lys Arg Glu	Asn Cys Val Leu Phe	Ser		
	170	175	180		
Gln Ser Ala Gln	Gly Lys Trp Ser Asp	Glu Ala Cys Arg Ser	Ser		
	185	190	195		
Lys Arg Tyr Ile	Cys Glu Phe Thr Ile	Pro Lys			
	200	205			

<210> 404  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 404  
 cctgggtatc cccaggaact ccgac 25

<210> 405  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 405  
 ctcttgctgc tgcgacaggc ctc 23

<210> 406  
 <211> 46  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 406  
 cgccctccaa gactatggta aaaggagcct gccagggtgc aatgac 46

<210> 407  
 <211> 570  
 <212> DNA  
 <213> Homo sapiens

<400> 407  
 gcgaggaccg ggtataagaa gcctcgtggc cttgcccggg cagccgcagg 50  
 ttccccgcgc gccccgagcc cccgcgccat gaagctcgcc gccctcctgg 100  
 ggctctgcgt ggccctgtcc tgcagctccg ctgctgcttt cttagtgggc 150  
 tgggccaagc ctgtggccca gcctgtcgct gcgctggagt cggcggcgga 200  
 ggccgggggc gggaccctgg ccaaccccct cggcaccctc aaccgcgtga 250  
 agctcctgct gagcagcctg ggcacccccg tgaaccacct catagagggc 300  
 tcccagaagt gtgtggctga gctgggtccc caggccgtgg gggccgtgaa 350

ggccctgaag gccctgctgg gggccctgac agtgtttggc tgagccgaga 400  
 ctggagcatc tacacctgag gacaagacgc tgcccacccg cgaggggtga 450  
 aaaccccgcc gcggggagga ccgtccatcc ccttcccccg gccctctca 500  
 ataaacgtgg ttaagagcaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 550  
 aaaaaaaaaa aaaaaaaaaa 570

<210> 408  
 <211> 104  
 <212> PRT  
 <213> Homo sapiens

<400> 408  
 Met Lys Leu Ala Ala Leu Leu Gly Leu Cys Val Ala Leu Ser Cys  
     1                    5                    10                    15  
 Ser Ser Ala Ala Ala Phe Leu Val Gly Ser Ala Lys Pro Val Ala  
                     20                    25                    30  
 Gln Pro Val Ala Ala Leu Glu Ser Ala Ala Glu Ala Gly Ala Gly  
                     35                    40                    45  
 Thr Leu Ala Asn Pro Leu Gly Thr Leu Asn Pro Leu Lys Leu Leu  
                     50                    55                    60  
 Leu Ser Ser Leu Gly Ile Pro Val Asn His Leu Ile Glu Gly Ser  
                     65                    70                    75  
 Gln Lys Cys Val Ala Glu Leu Gly Pro Gln Ala Val Gly Ala Val  
                     80                    85                    90  
 Lys Ala Leu Lys Ala Leu Leu Gly Ala Leu Thr Val Phe Gly  
                     95                    100

<210> 409  
 <211> 2089  
 <212> DNA  
 <213> Homo sapiens

<400> 409  
 tgaaggactt ttccaggacc caaggccaca cactggaagt cttgcagctg 50  
 aaggagggca ctcttgggcc tccgcagccg atcacatgaa ggtggtgcca 100  
 agtctcctgc tctccgtcct cctggcacag gtgtggctgg taccggcctt 150  
 ggccccagct cctcagtcgc cagagacccc agcccctcag aaccagacca 200  
 gcagggtagt gcaggctccc agggaggaag aggaagatga gcaggaggcc 250  
 agcgaggaga aggcgggtga ggaagagaaa gcctggctga tggccagcag 300  
 gcagcagctt gccaaaggaga cttcaaactt cggattcagc ctgctgcgaa 350  
 agatctccat gaggcacgat ggcaacatgg ttttctctcc atttggcatg 400  
 tccttggcca tgacaggctt gatgctgggg gccacagggc cgactgaaac 450  
 ccagatcaag agagggctcc acttgcaggc cctgaagccc accaagcccc 500

ggctcctgcc ttccctcttt aagggactca gagagaccct ctcccgaac 550  
 ctggaactgg gcctctcaca ggggagtttt gccttcatcc acaaggattt 600  
 tgatgtcaaa gagactttct tcaatttatt caagaggtat ttgatacag 650  
 agtgcgtgcc tatgaatttt cgcaatgcct cacaggccaa aaggctcatg 700  
 aatcattaca ttaacaaaga gactcggggg aaaattccca aactgtttga 750  
 tgagattaat cctgaaacca aattaattct tgtggattac atcttgttca 800  
 aagggaaatg gttgacccca ttgaccctg tcttcaccga agtcgacact 850  
 ttccacctgg acaagtacaa gaccattaag gtgcccata tgtacggtgc 900  
 aggcaagttt gcctccacct ttgacaagaa ttttcgttgt catgtcctca 950  
 aactgcccta ccaaggaaat gccaccatgc tgggtggtcct catggagaaa 1000  
 atgggtgacc acctcgccct tgaagactac ctgaccacag acttgggtgga 1050  
 gacatggctc agaaacatga aaaccagaaa catggaagtt ttctttccga 1100  
 agttcaagct agatcagaag tatgagatgc atgagctgct taggcagatg 1150  
 ggaatcagaa gaatcttctc accctttgct gaccttagtg aactctcagc 1200  
 tactggaaga aatctccaag tatccagggg ttacgaaga acagtgattg 1250  
 aagttgatga aaggggcaact gaggcagtggt caggaatctt gtcagaaatt 1300  
 actgcttatt ccatgcctcc tgtcatcaaa gtggaccggc catttcattt 1350  
 catgatctat gaagaaacct ctggaatgct tctgtttctg ggcaggggtg 1400  
 tgaatccgac tctcctataa ttcaggacat gcataagcac ttcgtgctgt 1450  
 agtagatgct gaatctgagg tatcaaacac acacaggata ccagcaatgg 1500  
 atggcagggg agagtgttcc ttttgttctt aactagttta ggggtgttctc 1550  
 aaataaatac agtagtcccc acttatctga gggggatata ttcaaagacc 1600  
 cccagcagat gcctgaaacg gtggacagtg ctgaacctta tatatatttt 1650  
 ttcctacaca tacataccta tgataaagtt taatttataa attaggcaca 1700  
 gtaagagatt aacaataata acaacattaa gtaaaatgag ttacttgaac 1750  
 gcaagcactg caataccata acagtcaaac tgattataga gaaggctact 1800  
 aagtgactca tgggcgagga gcatagacag tgtggagaca ttgggcaagg 1850  
 ggagaattca catcctgggt gggacagagc aggacgatgc aagattccat 1900  
 cccactactc agaatggcat gctgcttaag acttttagat tgttttatttc 1950  
 tggaattttt catttaatgt ttttgaccca tggttgacca tggttaactg 2000  
 agactgcaga aagcaaaacc atggataagg gaggactact acaaaagcat 2050  
 taaattgata catatttttt aaaaaaaaaa aaaaaaaaaa 2089

<210> 410  
 <211> 444  
 <212> PRT  
 <213> Homo sapiens

<400> 410

Met	Lys	Val	Val	Pro	Ser	Leu	Leu	Leu	Ser	Val	Leu	Leu	Ala	Gln	1	5	10	15
Val	Trp	Leu	Val	Pro	Gly	Leu	Ala	Pro	Ser	Pro	Gln	Ser	Pro	Glu	20	25	30	
Thr	Pro	Ala	Pro	Gln	Asn	Gln	Thr	Ser	Arg	Val	Val	Gln	Ala	Pro	35	40	45	
Arg	Glu	Glu	Glu	Glu	Asp	Glu	Gln	Glu	Ala	Ser	Glu	Glu	Lys	Ala	50	55	60	
Gly	Glu	Glu	Glu	Lys	Ala	Trp	Leu	Met	Ala	Ser	Arg	Gln	Gln	Leu	65	70	75	
Ala	Lys	Glu	Thr	Ser	Asn	Phe	Gly	Phe	Ser	Leu	Leu	Arg	Lys	Ile	80	85	90	
Ser	Met	Arg	His	Asp	Gly	Asn	Met	Val	Phe	Ser	Pro	Phe	Gly	Met	95	100	105	
Ser	Leu	Ala	Met	Thr	Gly	Leu	Met	Leu	Gly	Ala	Thr	Gly	Pro	Thr	110	115	120	
Glu	Thr	Gln	Ile	Lys	Arg	Gly	Leu	His	Leu	Gln	Ala	Leu	Lys	Pro	125	130	135	
Thr	Lys	Pro	Gly	Leu	Leu	Pro	Ser	Leu	Phe	Lys	Gly	Leu	Arg	Glu	140	145	150	
Thr	Leu	Ser	Arg	Asn	Leu	Glu	Leu	Gly	Leu	Ser	Gln	Gly	Ser	Phe	155	160	165	
Ala	Phe	Ile	His	Lys	Asp	Phe	Asp	Val	Lys	Glu	Thr	Phe	Phe	Asn	170	175	180	
Leu	Ser	Lys	Arg	Tyr	Phe	Asp	Thr	Glu	Cys	Val	Pro	Met	Asn	Phe	185	190	195	
Arg	Asn	Ala	Ser	Gln	Ala	Lys	Arg	Leu	Met	Asn	His	Tyr	Ile	Asn	200	205	210	
Lys	Glu	Thr	Arg	Gly	Lys	Ile	Pro	Lys	Leu	Phe	Asp	Glu	Ile	Asn	215	220	225	
Pro	Glu	Thr	Lys	Leu	Ile	Leu	Val	Asp	Tyr	Ile	Leu	Phe	Lys	Gly	230	235	240	
Lys	Trp	Leu	Thr	Pro	Phe	Asp	Pro	Val	Phe	Thr	Glu	Val	Asp	Thr	245	250	255	
Phe	His	Leu	Asp	Lys	Tyr	Lys	Thr	Ile	Lys	Val	Pro	Met	Met	Tyr	260	265	270	
Gly	Ala	Gly	Lys	Phe	Ala	Ser	Thr	Phe	Asp	Lys	Asn	Phe	Arg	Cys	275	280	285	

His	Val	Leu	Lys	Leu	Pro	Tyr	Gln	Gly	Asn	Ala	Thr	Met	Leu	Val	290	295	300
Val	Leu	Met	Glu	Lys	Met	Gly	Asp	His	Leu	Ala	Leu	Glu	Asp	Tyr	305	310	315
Leu	Thr	Thr	Asp	Leu	Val	Glu	Thr	Trp	Leu	Arg	Asn	Met	Lys	Thr	320	325	330
Arg	Asn	Met	Glu	Val	Phe	Phe	Pro	Lys	Phe	Lys	Leu	Asp	Gln	Lys	335	340	345
Tyr	Glu	Met	His	Glu	Leu	Leu	Arg	Gln	Met	Gly	Ile	Arg	Arg	Ile	350	355	360
Phe	Ser	Pro	Phe	Ala	Asp	Leu	Ser	Glu	Leu	Ser	Ala	Thr	Gly	Arg	365	370	375
Asn	Leu	Gln	Val	Ser	Arg	Val	Leu	Arg	Arg	Thr	Val	Ile	Glu	Val	380	385	390
Asp	Glu	Arg	Gly	Thr	Glu	Ala	Val	Ala	Gly	Ile	Leu	Ser	Glu	Ile	395	400	405
Thr	Ala	Tyr	Ser	Met	Pro	Pro	Val	Ile	Lys	Val	Asp	Arg	Pro	Phe	410	415	420
His	Phe	Met	Ile	Tyr	Glu	Glu	Thr	Ser	Gly	Met	Leu	Leu	Phe	Leu	425	430	435
Gly	Arg	Val	Val	Asn	Pro	Thr	Leu	Leu							440		

<210> 411  
 <211> 636  
 <212> DNA  
 <213> Homo sapiens

<400> 411  
 ctgggatcag ccactgcagc tccctgagca ctctctacag agacgcggac 50  
 cccagacatg aggaggctcc tcctgggtcac cagcctggtg gttgtgctgc 100  
 tgtgggaggc aggtgcagtc ccagcaccca aggtccctat caagatgcaa 150  
 gtcaaacact ggccctcaga gcaggaccca gagaaggcct ggggcgcccg 200  
 tgtggtggag cctccggaga aggacgacca gctggtggtg ctgttccctg 250  
 tccagaagcc gaaactcttg accaccgagg agaagccacg aggtcagggc 300  
 agggggccca tccttccagg caccaaggcc tggatggaga ccgaggacac 350  
 cctggggcgt gtcctgagtc ccgagcccga ccatgacagc ctgtaccacc 400  
 ctccgcctga ggaggaccag ggcgaggaga ggccccggtt gtgggtgatg 450  
 ccaaatacc aggtgctcct gggaccggag gaagaccaag accacatcta 500  
 ccacccccag tagggctcca ggggccatca ctgccccgc cctgtcccaa 550  
 ggcccaggct gttgggactg ggaccctccc taccctgcc cagctagaca 600



aataaacccc agcaggcaaa aaaaaaaaaa aaaaaa 636

<210> 412  
<211> 151  
<212> PRT  
<213> Homo sapiens

<400> 412  
Met Arg Arg Leu Leu Leu Val Thr Ser Leu Val Val Val Leu Leu  
1 5 10 15  
Trp Glu Ala Gly Ala Val Pro Ala Pro Lys Val Pro Ile Lys Met  
20 25 30  
Gln Val Lys His Trp Pro Ser Glu Gln Asp Pro Glu Lys Ala Trp  
35 40 45  
Gly Ala Arg Val Val Glu Pro Pro Glu Lys Asp Asp Gln Leu Val  
50 55 60  
Val Leu Phe Pro Val Gln Lys Pro Lys Leu Leu Thr Thr Glu Glu  
65 70 75  
Lys Pro Arg Gly Gln Gly Arg Gly Pro Ile Leu Pro Gly Thr Lys  
80 85 90  
Ala Trp Met Glu Thr Glu Asp Thr Leu Gly Arg Val Leu Ser Pro  
95 100 105  
Glu Pro Asp His Asp Ser Leu Tyr His Pro Pro Pro Glu Glu Asp  
110 115 120  
Gln Gly Glu Glu Arg Pro Arg Leu Trp Val Met Pro Asn His Gln  
125 130 135  
Val Leu Leu Gly Pro Glu Glu Asp Gln Asp His Ile Tyr His Pro  
140 145 150  
Gln

<210> 413  
<211> 1176  
<212> DNA  
<213> Homo sapiens

<400> 413  
agaaagctgc actctgttga gctccagggc gcagtggagg gagggagtga 50  
aggagctctc tgtacccaag gaaagtgcag ctgagactca gacaagatta 100  
caatgaacca actcagcttc ctgctgtttc tcatagcgac caccagagga 150  
tgaggtacag atgaggctaa tacttacttc aaggaatgga cctgttcttc 200  
gtctccatct ctgcccagaa gctgcaagga aatcaaagac gaatgtccta 250  
gtgcatttga tggcctgtat tttctccgca ctgagaatgg tggtatctac 300  
cagaccttct gtgacatgac ctctgggggt ggcggtctgga ccctgggtggc 350  
cagcgtgcat gagaatgaca tgcgtgggaa gtgcacggtg ggcgatcgct 400

ggtccagtca gcagggcagc aaagcagact acccagaggg ggacggcaac 450  
 tgggccaaact acaacacctt tggatctgca gagggcgcca cgagcgatga 500  
 ctacaagaac cctggctact acgacatcca ggccaaggac ctgggcatct 550  
 ggcacgtgcc caataagtcc cccatgcagc actggagaaa cagctccctg 600  
 ctgaggtacc gcacggacac tggcttcctc cagacactgg gacataatct 650  
 gtttggcatc taccagaaat atccagtga atattggagaa ggaaagtgtt 700  
 ggactgacaa cggcccgtg atccctgtgg tctatgattt tggcgacgcc 750  
 cagaaaacag catcttatta ctcacctat ggccagcggg aattcactgc 800  
 gggatttgtt cagttcaggg tatttaataa cgagagagca gccaacgcct 850  
 tgtgtgctgg aatgagggtc accggatgta aactgagca tcaactgcatt 900  
 ggtggaggag gatactttcc agaggccagt cccagcagt gtggagattt 950  
 ttctggtttt gattggagt gatatggaac tcatgttggg tacagcagca 1000  
 gccgtgagat aactgaggca gctgtgcttc tattctatcg ttgagagttt 1050  
 tgtgggaggg aaccagacc tctcctccca accatgagat cccaaggatg 1100  
 gagaacaact taccagtag ctagaatgtt aatggcagaa gagaaaacaa 1150  
 taaatcatat tgactcaaga aaaaaa 1176

<210> 414

<211> 313

<212> PRT

<213> Homo sapiens

<400> 414

Met	Asn	Gln	Leu	Ser	Phe	Leu	Leu	Phe	Leu	Ile	Ala	Thr	Thr	Arg
1				5					10					15
Gly	Trp	Ser	Thr	Asp	Glu	Ala	Asn	Thr	Tyr	Phe	Lys	Glu	Trp	Thr
				20					25					30
Cys	Ser	Ser	Ser	Pro	Ser	Leu	Pro	Arg	Ser	Cys	Lys	Glu	Ile	Lys
				35					40					45
Asp	Glu	Cys	Pro	Ser	Ala	Phe	Asp	Gly	Leu	Tyr	Phe	Leu	Arg	Thr
				50					55					60
Glu	Asn	Gly	Val	Ile	Tyr	Gln	Thr	Phe	Cys	Asp	Met	Thr	Ser	Gly
				65					70					75
Gly	Gly	Gly	Trp	Thr	Leu	Val	Ala	Ser	Val	His	Glu	Asn	Asp	Met
				80					85					90
Arg	Gly	Lys	Cys	Thr	Val	Gly	Asp	Arg	Trp	Ser	Ser	Gln	Gln	Gly
				95					100					105
Ser	Lys	Ala	Asp	Tyr	Pro	Glu	Gly	Asp	Gly	Asn	Trp	Ala	Asn	Tyr
				110					115					120
Asn	Thr	Phe	Gly	Ser	Ala	Glu	Ala	Ala	Thr	Ser	Asp	Asp	Tyr	Lys

	125	130	135
Asn Pro Gly Tyr	Tyr Asp Ile Gln Ala	Lys Asp Leu Gly Ile	Trp
	140	145	150
His Val Pro Asn	Lys Ser Pro Met Gln	His Trp Arg Asn Ser	Ser
	155	160	165
Leu Leu Arg Tyr	Arg Thr Asp Thr Gly	Phe Leu Gln Thr Leu	Gly
	170	175	180
His Asn Leu Phe	Gly Ile Tyr Gln Lys	Tyr Pro Val Lys Tyr	Gly
	185	190	195
Glu Gly Lys Cys	Trp Thr Asp Asn Gly	Pro Val Ile Pro Val	Val
	200	205	210
Tyr Asp Phe Gly	Asp Ala Gln Lys Thr	Ala Ser Tyr Tyr Ser	Pro
	215	220	225
Tyr Gly Gln Arg	Glu Phe Thr Ala Gly	Phe Val Gln Phe Arg	Val
	230	235	240
Phe Asn Asn Glu	Arg Ala Ala Asn Ala	Leu Cys Ala Gly Met	Arg
	245	250	255
Val Thr Gly Cys	Asn Thr Glu His His	Cys Ile Gly Gly Gly	Gly
	260	265	270
Tyr Phe Pro Glu	Ala Ser Pro Gln Gln	Cys Gly Asp Phe Ser	Gly
	275	280	285
Phe Asp Trp Ser	Gly Tyr Gly Thr His	Val Gly Tyr Ser Ser	Ser
	290	295	300
Arg Glu Ile Thr	Glu Ala Ala Val Leu	Leu Phe Tyr Arg	
	305	310	

<210> 415  
 <211> 1281  
 <212> DNA  
 <213> Homo sapiens

<400> 415  
 gcggagccgg cgccggctgc gcagaggagc cgctctcgcc gccgccacct 50  
 cggctgggag cccacgaggc tgccgcatcc tgccctcgga acaatgggac 100  
 tcggcgcgcg aggtgcttgg gccgcgctgc tcctggggac gctgcaggtg 150  
 ctagcgctgc tggggggccgc ccatgaaagc gcagccatgg cggcattctgc 200  
 aaacatagag aattctgggc ttccacacaa ctccagtgtt aactcaacag 250  
 agactctcca acatgtgcct tctgaccata caaatgaaac ttccaacagt 300  
 actgtgaaac caccaacttc agttgcctca gactccagta atacaacggt 350  
 caccaccatg aaacctacag cggcattctaa tacaacaaca ccagggatgg 400  
 tctcaacaaa tatgacttct accaccttaa agtctacacc caaaacaaca 450  
 agtgtttcac agaacacatc tcagatatca acatccacaa tgaccgtaac 500

ccacaatagt tcagtgacat ctgctgcttc atcagtaaca atcacaacaa 550  
ctatgcattc tgaagcaaag aaaggatcaa aatttgatac tgggagcttt 600  
gttgggtgga ttgtattaac gctgggagtt ttatctattc tttacattgg 650  
atgcaaaatg tattactcaa gaagaggcat tcggtatcga accatagatg 700  
aacatgatgc catcatttaa ggaaatccat ggaccaagga tggaatacag 750  
attgatgctg ccctatcaat taattttggt ttattaatag tttaaaacaa 800  
tattctcttt ttgaaaatag tataaacagg ccatgcatat aatgtacagt 850  
gtattacgta aatatgtaaa gattcttcaa ggtaacaagg gtttgggttt 900  
tgaaataaac atctggatct tatagaccgt tcatacaatg gtttttagcaa 950  
gttcatagta agacaaacaa gtcctatctt ttttttttgg ctgggggtggg 1000  
ggcattggtc acatatgacc agtaattgaa agacgtcatc actgaaagac 1050  
agaatgccat ctgggcatac aaataagaag tttgtcacag cactcaggat 1100  
tttgggtatc ttttgtagct cacataaaga acttcagtgc ttttcagagc 1150  
tggaatatatc ttaattacta atgccacaca gaaattatac aatcaaacta 1200  
gatctgaagc ataatttaag aaaaacatca acattttttg tgcttttaaac 1250  
tgtagtagtt ggtctagaaa caaaatactc c 1281

<210> 416  
<211> 208  
<212> PRT  
<213> Homo sapiens

<400> 416  
Met Gly Leu Gly Ala Arg Gly Ala Trp Ala Ala Leu Leu Leu Gly  
1 5 10 15  
Thr Leu Gln Val Leu Ala Leu Leu Gly Ala Ala His Glu Ser Ala  
20 25 30  
Ala Met Ala Ala Ser Ala Asn Ile Glu Asn Ser Gly Leu Pro His  
35 40 45  
Asn Ser Ser Ala Asn Ser Thr Glu Thr Leu Gln His Val Pro Ser  
50 55 60  
Asp His Thr Asn Glu Thr Ser Asn Ser Thr Val Lys Pro Pro Thr  
65 70 75  
Ser Val Ala Ser Asp Ser Ser Asn Thr Thr Val Thr Thr Met Lys  
80 85 90  
Pro Thr Ala Ala Ser Asn Thr Thr Thr Pro Gly Met Val Ser Thr  
95 100 105  
Asn Met Thr Ser Thr Thr Leu Lys Ser Thr Pro Lys Thr Thr Ser  
110 115 120  
Val Ser Gln Asn Thr Ser Gln Ile Ser Thr Ser Thr Met Thr Val

	125		130		135
Thr His Asn Ser	Ser Val Thr Ser Ala	Ala Ser Ser Val Thr	Ile		
	140		145		150
Thr Thr Thr Met	His Ser Glu Ala Lys	Lys Gly Ser Lys Phe	Asp		
	155		160		165
Thr Gly Ser Phe	Val Gly Gly Ile Val	Leu Thr Leu Gly Val	Leu		
	170		175		180
Ser Ile Leu Tyr	Ile Gly Cys Lys Met	Tyr Tyr Ser Arg Arg	Gly		
	185		190		195
Ile Arg Tyr Arg	Thr Ile Asp Glu His	Asp Ala Ile Ile			
	200		205		

<210> 417  
 <211> 1728  
 <212> DNA  
 <213> Homo sapiens

<400> 417  
 cagccgggtc ccaagcctgt gcctgagcct gagcctgagc ctgagcccgga 50  
 gccgggagcc ggtcgcgggg gctccgggct gtgggaccgc tgggccccca 100  
 gcgatggcga ccctgtgggg aggccttctt cggcttggct ccttgctcag 150  
 cctgtcgtgc ctggcgcttt cctgtctgct gctggcgcag ctgtcagacg 200  
 ccgccaagaa tttcgaggat gtcagatgta aatgtatctg ccctccctat 250  
 aaagaaaatt ctgggcataat ttataataag aacatatctc agaaagattg 300  
 tgattgcctt catgtttgtg agcccatgcc tgtgcggggg cctgatgtag 350  
 aagcatactg tctacgctgt gaatgcaa atgaagaaag aagctctgtc 400  
 acaatcaagg ttaccattat aatttatctc tccatttttg gccttctact 450  
 tctgtacatg gtatatctta ctctggttga gcccatactg aagaggcgcc 500  
 tcttttgaca tgcacagttg atacagagt atgatgatat tggggatcac 550  
 cagccttttg caaatgcaca cgatgtgcta gcccgctccc gcagtcgagc 600  
 caacgtgctg aacaaggtag aatatgcaca gcagcgctgg aagcttcaag 650  
 tccaagagca gcgaaagtct gtctttgacc ggcattgtgt cctcagctaa 700  
 ttgggaattg aattcaaggt gactagaaaag aaacaggcag acaactggaa 750  
 agaactgact gggttttgct gggtttcatt ttaatacctt gttgatttca 800  
 ccaactggtg ctggaagatt caaaactgga agcaaaaact tgcttgattt 850  
 ttttttcttg ttaacgtaat aatagagaca tttttaaaag cacacagctc 900  
 aaagtcagcc aataagtctt ttcctatttg tgacttttac taataaaaat 950  
 aaatctgcct gtaaattatc ttgaagtcct ttacctggaa caagcactct 1000

ctttttcacc acatagtttt aacttgactt tcaagataat tttcaggggtt 1050  
 tttgttggtt ttgttttttg tttgtttgtt ttggtgggag aggggagggga 1100  
 tgcctgggaa gtgggtaaca acttttttca agtcacttta ctaaacaac 1150  
 ttttgtaaag agaccttacc ttctattttc gagtttcatt tatattttgc 1200  
 agtgtagcca gcctcatcaa agagctgact tactcatttg actttttgcac 1250  
 tgactgtatt atctgggtat ctgctgtgtc tgcacttcat ggtaaacggg 1300  
 atctaaaatg cctgggtggct tttcacaaaa agcagatttt cttcatgtac 1350  
 tgtgatgtct gatgcaatgc atcctagaac aaactggcca tttgctagtt 1400  
 tactctaaag actaaacata gtcttggtgt gtgtggtctt actcatcttc 1450  
 tagtaccttt aaggacaaat cctaaggact tggacacttg caataaagaa 1500  
 attttatttt aaaccaagc ctccctggat tgataatata tacacatttg 1550  
 tcagcatttc cggctcgtgt gagaggcagc tgtttgagct ccaatatgtg 1600  
 cagctttgaa ctagggctgg ggttggtgggt gcctcttctg aaaggtctaa 1650  
 ccattattgg ataactggct tttttcttcc tatgtcctct ttggaatgta 1700  
 acaataaaaa taatttttga aacatcaa 1728

<210> 418  
 <211> 198  
 <212> PRT  
 <213> Homo sapiens

<400> 418  
 Met Ala Thr Leu Trp Gly Gly Leu Leu Arg Leu Gly Ser Leu Leu  
 1 5 10 15  
 Ser Leu Ser Cys Leu Ala Leu Ser Val Leu Leu Leu Ala Gln Leu  
 20 25 30  
 Ser Asp Ala Ala Lys Asn Phe Glu Asp Val Arg Cys Lys Cys Ile  
 35 40 45  
 Cys Pro Pro Tyr Lys Glu Asn Ser Gly His Ile Tyr Asn Lys Asn  
 50 55 60  
 Ile Ser Gln Lys Asp Cys Asp Cys Leu His Val Val Glu Pro Met  
 65 70 75  
 Pro Val Arg Gly Pro Asp Val Glu Ala Tyr Cys Leu Arg Cys Glu  
 80 85 90  
 Cys Lys Tyr Glu Glu Arg Ser Ser Val Thr Ile Lys Val Thr Ile  
 95 100 105  
 Ile Ile Tyr Leu Ser Ile Leu Gly Leu Leu Leu Leu Tyr Met Val  
 110 115 120  
 Tyr Leu Thr Leu Val Glu Pro Ile Leu Lys Arg Arg Leu Phe Gly  
 125 130 135

His	Ala	Gln	Leu	Ile	Gln	Ser	Asp	Asp	Asp	Ile	Gly	Asp	His	Gln
				140					145					150
Pro	Phe	Ala	Asn	Ala	His	Asp	Val	Leu	Ala	Arg	Ser	Arg	Ser	Arg
				155					160					165
Ala	Asn	Val	Leu	Asn	Lys	Val	Glu	Tyr	Ala	Gln	Gln	Arg	Trp	Lys
				170					175					180
Leu	Gln	Val	Gln	Glu	Gln	Arg	Lys	Ser	Val	Phe	Asp	Arg	His	Val
				185					190					195

Val Leu Ser

<210> 419  
 <211> 681  
 <212> DNA  
 <213> Homo sapiens

<400> 419  
 gcacctgcga ccacctgtag cagtcattggc gtactccaca gtgcagagag 50  
 tcgctctggc ttctgggctt gtcctggctc tgctgctgct gctgccaag 100  
 gccttcctgt cccgcgggaa gcggcaggag ccgccgccga cacctgaagg 150  
 aaaattgggc cgatttccac ctatgatgca tcatcaccag gcaccctcag 200  
 atggccagac tcctggggct cgtttccaga ggtctcacct tgccgaggca 250  
 tttgcaaagg ccaaaggatc aggtggaggt gctggaggag gaggtagtgg 300  
 aagaggtctg atggggcaga ttattccaat ctacggtttt gggatttttt 350  
 tatatatact gtacattcta ttttaaggtaa gtagaatcat cctaatacata 400  
 ttacatcaat gaaaatctaa tatggcgata aaaatcattg tctacattaa 450  
 aacttcttat agttcataaa attatttcaa atccatcatc tttttaaatc 500  
 ctgcctcctc ttcattgagg acttaggata gccattattt cagtttcaca 550  
 taagaatgtt tactcaatgt ttaagtgttt tgccccaaaa ttcacaacta 600  
 acaaggcaga actaggactt gaacatggat cttttggttc ttaatccagt 650  
 gagtgataca attcaatgca ctcccctgcc a 681

<210> 420  
 <211> 128  
 <212> PRT  
 <213> Homo sapiens

<400> 420  
 Met Ala Tyr Ser Thr Val Gln Arg Val Ala Leu Ala Ser Gly Leu  
 1 5 10 15  
 Val Leu Ala Leu Ser Leu Leu Leu Pro Lys Ala Phe Leu Ser Arg  
 20 25 30  
 Gly Lys Arg Gln Glu Pro Pro Pro Thr Pro Glu Gly Lys Leu Gly  
 35 40 45

Arg	Phe	Pro	Pro	Met	Met	His	His	His	Gln	Ala	Pro	Ser	Asp	Gly
				50					55					60
Gln	Thr	Pro	Gly	Ala	Arg	Phe	Gln	Arg	Ser	His	Leu	Ala	Glu	Ala
			65						70					75
Phe	Ala	Lys	Ala	Lys	Gly	Ser	Gly	Gly	Gly	Ala	Gly	Gly	Gly	Gly
			80						85					90
Ser	Gly	Arg	Gly	Leu	Met	Gly	Gln	Ile	Ile	Pro	Ile	Tyr	Gly	Phe
			95						100					105
Gly	Ile	Phe	Leu	Tyr	Ile	Leu	Tyr	Ile	Leu	Phe	Lys	Val	Ser	Arg
			110						115					120
Ile	Ile	Leu	Ile	Ile	Leu	His	Gln							
			125											

<210> 421  
 <211> 1630  
 <212> DNA  
 <213> Homo sapiens

<400> 421  
 cggctcagat gcagctgtgg ggagatttca gtgcattgcc tcccctgggt 50  
 gctcttcata ttggatttga aagttgagag cagcatgttt tgcccactga 100  
 aactcatcct gctgccagtg ttactggatt attccttggg cctgaatgac 150  
 ttgaatgttt ccccgccctga gctaacagtc catgtgggtg attcagctct 200  
 gatgggatgt gttttccaga gcacagaaga caaatgtata ttcaagatag 250  
 actggactct gtcaccagga gagcacgcca aggacgaata tgtgctatac 300  
 tattactcca atctcagtgt gcctattggg cgcttccaga accgcgtaca 350  
 cttgatgggg gacatcttat gcaatgatgg ctctctcctg ctccaagatg 400  
 tgcaagaggc tgaccagga acctatatct gtgaaatccg cctcaaaggg 450  
 gagagccagg tgttcaagaa ggcggtggta ctgcatgtgc ttccagagga 500  
 gcccaaagag ctcatggtcc atgtgggtgg attgattcag atgggatgtg 550  
 ttttccagag cacagaagtg aaacacgtga ccaaggtaga atggatattt 600  
 tcaggacggc gcgcaaagga ggagattgta tttogttact accacaaact 650  
 caggatgtct gtggagtact ccagagctg gggccacttc cagaatcgtg 700  
 tgaacctggt gggggacatt ttccgcaatg acggttccat catgcttcaa 750  
 ggagtgaggg agtcagatgg aggaaactac acctgcagta tccacctagg 800  
 gaacctggtg ttcaagaaaa ccattgtgct gcatgtcagc ccggaagagc 850  
 ctgcaacact ggtgaccccg gcagccctga ggcctctggt cttgggtggt 900  
 aatcagttgg tgatcattgt ggggaattgtc tgtgccacaa tcctgctgct 950  
 cctgtttctg atattgatcg tgaagaagac ctgtggaaat aagagttcag 1000



tgaattctac agtcttggtg aagaacacga agaagactaa tccagagata 1050  
aaagaaaaac cctgccattt tgaaagatgt gaaggggaga aacacattta 1100  
ctccccaata attgtacggg aggtgatcga ggaagaagaa ccaagtgaaa 1150  
aatcagaggc cacctacatg accatgcacc cagtttggcc ttctctgagg 1200  
tcagatcgga acaactcact tgaaaaaaag tcaggtgggg gaatgccaaa 1250  
aacacagcaa gccttttgag aagaatggag agtcccttca tctcagcagc 1300  
ggtggagact ctctcctgtg tgtgtcctgg gccactctac cagtgatctc 1350  
agactccgcg tctccagct gtctcctgt ctcatgttt ggtcaataca 1400  
ctgaagatgg agaatttgga gcctggcaga gagactggac agctctggag 1450  
gaacaggcct gctgagggga ggggagcatg gacttggcct ctggagtggg 1500  
aactggccc tgggaaccag gctgagctga gtggcctcaa acccccgtt 1550  
ggatcagacc ctctgtggg cagggttctt agtggatgag ttactgggaa 1600  
gaatcagaga taaaaaccaa cccaaatcaa 1630

<210> 422  
<211> 394  
<212> PRT  
<213> Homo sapiens

<400> 422  
Met Phe Cys Pro Leu Lys Leu Ile Leu Leu Pro Val Leu Leu Asp  
1 5 10 15  
Tyr Ser Leu Gly Leu Asn Asp Leu Asn Val Ser Pro Pro Glu Leu  
20 25 30  
Thr Val His Val Gly Asp Ser Ala Leu Met Gly Cys Val Phe Gln  
35 40 45  
Ser Thr Glu Asp Lys Cys Ile Phe Lys Ile Asp Trp Thr Leu Ser  
50 55 60  
Pro Gly Glu His Ala Lys Asp Glu Tyr Val Leu Tyr Tyr Tyr Ser  
65 70 75  
Asn Leu Ser Val Pro Ile Gly Arg Phe Gln Asn Arg Val His Leu  
80 85 90  
Met Gly Asp Ile Leu Cys Asn Asp Gly Ser Leu Leu Leu Gln Asp  
95 100 105  
Val Gln Glu Ala Asp Gln Gly Thr Tyr Ile Cys Glu Ile Arg Leu  
110 115 120  
Lys Gly Glu Ser Gln Val Phe Lys Lys Ala Val Val Leu His Val  
125 130 135  
Leu Pro Glu Glu Pro Lys Glu Leu Met Val His Val Gly Gly Leu  
140 145 150  
Ile Gln Met Gly Cys Val Phe Gln Ser Thr Glu Val Lys His Val

155					160					165				
Thr	Lys	Val	Glu	Trp	Ile	Phe	Ser	Gly	Arg	Arg	Ala	Lys	Glu	Glu
				170					175					180
Ile	Val	Phe	Arg	Tyr	Tyr	His	Lys	Leu	Arg	Met	Ser	Val	Glu	Tyr
				185					190					195
Ser	Gln	Ser	Trp	Gly	His	Phe	Gln	Asn	Arg	Val	Asn	Leu	Val	Gly
				200					205					210
Asp	Ile	Phe	Arg	Asn	Asp	Gly	Ser	Ile	Met	Leu	Gln	Gly	Val	Arg
				215					220					225
Glu	Ser	Asp	Gly	Gly	Asn	Tyr	Thr	Cys	Ser	Ile	His	Leu	Gly	Asn
				230					235					240
Leu	Val	Phe	Lys	Lys	Thr	Ile	Val	Leu	His	Val	Ser	Pro	Glu	Glu
				245					250					255
Pro	Arg	Thr	Leu	Val	Thr	Pro	Ala	Ala	Leu	Arg	Pro	Leu	Val	Leu
				260					265					270
Gly	Gly	Asn	Gln	Leu	Val	Ile	Ile	Val	Gly	Ile	Val	Cys	Ala	Thr
				275					280					285
Ile	Leu	Leu	Leu	Pro	Val	Leu	Ile	Leu	Ile	Val	Lys	Lys	Thr	Cys
				290					295					300
Gly	Asn	Lys	Ser	Ser	Val	Asn	Ser	Thr	Val	Leu	Val	Lys	Asn	Thr
				305					310					315
Lys	Lys	Thr	Asn	Pro	Glu	Ile	Lys	Glu	Lys	Pro	Cys	His	Phe	Glu
				320					325					330
Arg	Cys	Glu	Gly	Glu	Lys	His	Ile	Tyr	Ser	Pro	Ile	Ile	Val	Arg
				335					340					345
Glu	Val	Ile	Glu	Glu	Glu	Glu	Pro	Ser	Glu	Lys	Ser	Glu	Ala	Thr
				350					355					360
Tyr	Met	Thr	Met	His	Pro	Val	Trp	Pro	Ser	Leu	Arg	Ser	Asp	Arg
				365					370					375
Asn	Asn	Ser	Leu	Glu	Lys	Lys	Ser	Gly	Gly	Gly	Met	Pro	Lys	Thr
				380					385					390

Gln Gln Ala Phe

<210> 423  
 <211> 963  
 <212> DNA  
 <213> Homo sapiens

<400> 423  
 ctatgaagaa gcttcctgga aaacaataag caaaggaaaa caaatgtgtc 50  
 ccatctcaca tggttctacc ctactaaaga caggaagatc ataaactgac 100  
 agatactgaa attgtaagag ttggaaacta cattttgcaa agtcattgaa 150  
 ctctgagctc agttgcagta ctcggaagc catgcaggat gaagatggat 200

acatcacctt aaatattaaa actcggaac cagctctcgt ctccgttggc 250  
 cctgcatacct cctcctggtg gcgtgtgatg gctttgattc tgctgatacct 300  
 gtgcgtgggg atggttgtcg ggctggtggc tctggggatt tgggtctgtca 350  
 tgcagcgcaa ttacctacaa gatgagaatg aaaatcgcac aggaactctg 400  
 caacaattag caaagcgctt ctgtcaatat gtggtaaaac aatcagaact 450  
 aaagggcact ttcaaaggtc ataaatgcag cccctgtgac acaaactgga 500  
 gatattatgg agatagctgc tatgggttct tcaggcacaa cttaacatgg 550  
 gaagagagta agcagtactg cactgacatg aatgctactc tcctgaagat 600  
 tgacaaccgg aacattgtgg agtacatcaa agccaggact catttaattc 650  
 gttgggtcgg attatctcgc cagaagtcga atgaggtctg gaagtgggag 700  
 gatggctcgg ttatctcaga aaatatgttt gagtttttgg aagatggaaa 750  
 aggaaatatg aattgtgctt attttcataa tgggaaaatg caccctacct 800  
 tctgtgagaa caaacattat ttaatgtgtg agaggaaggc tggcatgacc 850  
 aaggtggacc aactacctta atgcaaagag gtggacagga taacacagat 900  
 aagggtctta ttgtacaata aaagatatgt atgaatgcat cagtagctga 950  
 aaaaaaaaaa aaa 963

<210> 424  
 <211> 229  
 <212> PRT  
 <213> Homo sapiens

<400> 424  
 Met Gln Asp Glu Asp Gly Tyr Ile Thr Leu Asn Ile Lys Thr Arg  
 1 5 10 15  
 Lys Pro Ala Leu Val Ser Val Gly Pro Ala Ser Ser Ser Trp Trp  
 20 25 30  
 Arg Val Met Ala Leu Ile Leu Leu Ile Leu Cys Val Gly Met Val  
 35 40 45  
 Val Gly Leu Val Ala Leu Gly Ile Trp Ser Val Met Gln Arg Asn  
 50 55 60  
 Tyr Leu Gln Asp Glu Asn Glu Asn Arg Thr Gly Thr Leu Gln Gln  
 65 70 75  
 Leu Ala Lys Arg Phe Cys Gln Tyr Val Val Lys Gln Ser Glu Leu  
 80 85 90  
 Lys Gly Thr Phe Lys Gly His Lys Cys Ser Pro Cys Asp Thr Asn  
 95 100 105  
 Trp Arg Tyr Tyr Gly Asp Ser Cys Tyr Gly Phe Phe Arg His Asn  
 110 115 120  
 Leu Thr Trp Glu Glu Ser Lys Gln Tyr Cys Thr Asp Met Asn Ala

	125		130		135
Thr Leu Leu Lys	Ile Asp Asn Arg Asn	Ile Val Glu Tyr Ile	Lys		
	140	145	150		
Ala Arg Thr His	Leu Ile Arg Trp Val	Gly Leu Ser Arg Gln	Lys		
	155	160	165		
Ser Asn Glu Val	Trp Lys Trp Glu Asp	Gly Ser Val Ile Ser	Glu		
	170	175	180		
Asn Met Phe Glu	Phe Leu Glu Asp Gly	Lys Gly Asn Met Asn	Cys		
	185	190	195		
Ala Tyr Phe His	Asn Gly Lys Met His	Pro Thr Phe Cys Glu	Asn		
	200	205	210		
Lys His Tyr Leu	Met Cys Glu Arg Lys	Ala Gly Met Thr Lys	Val		
	215	220	225		

Asp Gln Leu Pro

<210> 425  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 425  
 tgcagcccct gtgacacaaa ctgg 24

<210> 426  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 426  
 ctgagataac cgagccatcc tcccac 26

<210> 427  
 <211> 49  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 427  
 gcttcctgac actaaggctg tctgctagtc agaattgcct caaaaagag 49

<210> 428  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 428  
 ccaccaatgg cagccccacc t 21  
  
 <210> 429  
 <211> 17  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 429  
 gactgccctc cctgcca 17  
  
 <210> 430  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 430  
 caaaaagcct ggaagtcttc aaag 24  
  
 <210> 431  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 431  
 cagctggact gcaggtgcta 20  
  
 <210> 432  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 432  
 cagtgagcac agcaagtgtc ct 22  
  
 <210> 433  
 <211> 28  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 433  
 ggccacctcc ttgagtcttc agttccct 28  
  
 <210> 434  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 434  
 caactactgg ctaaagctgg tgaa 24  
  
 <210> 435  
 <211> 27  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 435  
 cctttctgta taggtgatac ccaatga 27  
  
 <210> 436  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 436  
 tggccatccc taccagaggc aaaa 24  
  
 <210> 437  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 437  
 ctgaagacga cgcggttac ta 22  
  
 <210> 438  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 438  
 ggcagaaatg ggaggcaga 19  
  
 <210> 439  
 <211> 30  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 439  
 tgctctgttg gctacggctt tagtcctag 30  
  
 <210> 440  
 <211> 22

<212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 440  
   agcagcagcc atgtagaatg aa 22  
  
 <210> 441  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 441  
   aatacgaaca gtgcacgctg at 22  
  
 <210> 442  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 442  
   tccagagagc caagcacggc aga 23  
  
 <210> 443  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 443  
   tctagccagc ttggctccaa ta 22  
  
 <210> 444  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 444  
   cctggctcta gcaccaactc ata 23  
  
 <210> 445  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 445  
   tcagtggccc taaggagatg ggcct 25

<210> 446  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 446  
 caggatacag tgggaatctt gaga 24  
  
 <210> 447  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 447  
 cctgaagggc ttggagctta gt 22  
  
 <210> 448  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 448  
 tctttggcca tttcccatgg ctca 24  
  
 <210> 449  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 449  
 cccatggcga ggaggaat 18  
  
 <210> 450  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 450  
 tgcgtacgtg tgccttcag 19  
  
 <210> 451  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe



<400> 451  
cagcacccca ggcagtctgt gtgt 24

<210> 452  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 452  
aacgtgctac acgaccagtg tact 24

<210> 453  
<211> 27  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 453  
cacagcatat tcagatgact aaatcca 27

<210> 454  
<211> 31  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 454  
ttgttttagtt ctccaccgtg tctccacaga a 31

<210> 455  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 455  
tgtcagaatg caacctggct t 21

<210> 456  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 456  
tgatgtgcct ggctcagaac 20

<210> 457  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 457  
 tgcacctaga tgtccccagc accc 24  
  
 <210> 458  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 458  
 aagatgcgcc aggcttctta 20  
  
 <210> 459  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 459  
 ctccctgtacg gtctgctcac ttat 24  
  
 <210> 460  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 460  
 tggctgtcag tccagtgtgc atgg 24  
  
 <210> 461  
 <211> 29  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 461  
 gcatagggat agataagatc ctgctttat 29  
  
 <210> 462  
 <211> 27  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 462  
 caaattaaag taccatcag gagagaa 27  
  
 <210> 463  
 <211> 37

<212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 463  
 aagttgctaa atatatacat tatctgcgcc aagtcca 37  
  
 <210> 464  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 464  
 gtgctgcca caattcatga 20  
  
 <210> 465  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 465  
 gtccttggtgta tgggtctgaa ttatat 26  
  
 <210> 466  
 <211> 31  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 466  
 actctctgca cccacagtc accactatct c 31  
  
 <210> 467  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 467  
 ctgaggaacc agccatgtct ct 22  
  
 <210> 468  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 468  
 gaccagatgc aggtacagga tga 23

<210> 469  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 469  
 ctgccccttc agtgatgcca acctt 25  
  
 <210> 470  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 470  
 ggggtggaggc tcaactgagta ga 22  
  
 <210> 471  
 <211> 28  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 471  
 caatacaggt aatgaaactc tgcttctt 28  
  
 <210> 472  
 <211> 36  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 472  
 tcctcttaag cataggccat tttctcagtt tagaca 36  
  
 <210> 473  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 473  
 ggtggtcttg cttggtctca c 21  
  
 <210> 474  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe

<400> 474  
 ccgtcgttca gcaacatgac 20  
  
 <210> 475  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 475  
 accgcctacc gctgtgccca 20  
  
 <210> 476  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 476  
 cagtaaaacc acaggctgga ttt 23  
  
 <210> 477  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 477  
 cctgagagca agaaggttga gaat 24  
  
 <210> 478  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 478  
 tagacaggga ccatggcccg ca 22  
  
 <210> 479  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 479  
 tgggctgtag aagagttggt g 21  
  
 <210> 480  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 480  
 tccacacttg gccagtttat 20  
  
 <210> 481  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 481  
 cccaacttct cccttttgga ccct 24  
  
 <210> 482  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 482  
 gtcccttcac tgtttagagc atga 24  
  
 <210> 483  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 483  
 actctcccc tcaacagcct cctgag 26  
  
 <210> 484  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 484  
 gtggtcaggg cagatccttt 20  
  
 <210> 485  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 485  
 acagatccag gagagactcc aca 23  
  
 <210> 486  
 <211> 21

<212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 486  
 agcggcgctc ccagcctgaa t 21  
  
 <210> 487  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 487  
 catgattggt cctcagttcc atc 23  
  
 <210> 488  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 488  
 atagagggct cccagaagtg 20  
  
 <210> 489  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 489  
 cagggccttc agggccttca c 21  
  
 <210> 490  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 490  
 gctcagccaa aactgtca 19  
  
 <210> 491  
 <211> 17  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 491  
 ggggccctga cagtgtt 17

<210> 492  
<211> 26  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 492  
ctgagccgag actggagcat ctacac 26

<210> 493  
<211> 17  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 493  
gtgggcagcg tcttgtc 17

<210> 494  
<211> 1231  
<212> DNA  
<213> Homo Sapien

<400> 494  
cccacgcgtc cgcgcagtcg cgcagttctg cctccgcctg ccagtctcgc 50  
ccgcgatccc ggcccggggc tgtggcgtcg actccgaccc aggcagccag 100  
cagcccgcgc gggagccgga ccgccgccg aggagctcgg acggcatgct 150  
gagccccctc ctttgctgaa gcccgagtgc ggagaagccc gggcaaacgc 200  
aggctaagga gaccaaagcg gcgaagtcgc gagacagcgg acaagcagcg 250  
gaggagaagg aggaggaggc gaaccagag aggggcagca aaagaagcgg 300  
tggttggtggg cgtcgtggcc atggcgccg ctatcgccag ctcgctcatc 350  
cgtcagaaga ggcaagcccg cgagcgcgag aaatccaacg cctgcaagtg 400  
tgtcagcagc ccagcaaag gcaagaccag ctgcgacaaa aacaagttaa 450  
atgtcttttc ccgggtcaaa ctcttcggct ccaagaagag gcgcagaaga 500  
agaccagagc ctgagcttaa gggatatgtt accaagctat acagccgaca 550  
aggctaccac ttgcagctgc aggcggatgg aaccattgat ggcaccaaag 600  
atgaggacag cacttacact ctgtttaacc tcatccctgt gggctctgcga 650  
gtggtggcta tccaaggagt tcaaaccaag ctgtacttgg caatgaacag 700  
tgagggatac ttgtacacct cggaactttt cacacctgag tgcaaattca 750  
aagaatcagt gtttgaaaat tattatgtga catattcatc aatgatatac 800  
cgtcagcagc agtcaggccg aggggtggtat ctgggtctga acaaagaagg 850  
agagatcatg aaaggcaacc atgtgaagaa gaacaagcct gcagctcatt 900



ttctgcctaa accactgaaa gtggccatgt acaaggagcc atcactgcac 950  
gatctcacgg agttctcccg atctggaagc gggaccccaa ccaagagcag 1000  
aagtgtctct ggcgtgctga acggaggcaa atccatgagc cacaatgaat 1050  
caacgtagcc agtgagggca aaagaagggc tctgtaacag aaccttacct 1100  
ccagggtgctg ttgaattctt ctagcagtcc ttcacccaaa agttcaaatt 1150  
tgtcagtgcac atttaccaaa caaacaggca gagttcacta ttctatctgc 1200  
cattagacct tcttatcatc cataactaaag c 1231

<210> 495  
<211> 245  
<212> PRT  
<213> Homo Sapien

<400> 495  
Met Ala Ala Ala Ile Ala Ser Ser Leu Ile Arg Gln Lys Arg Gln 15  
1 5 10  
Ala Arg Glu Arg Glu Lys Ser Asn Ala Cys Lys Cys Val Ser Ser 30  
20 25 30  
Pro Ser Lys Gly Lys Thr Ser Cys Asp Lys Asn Lys Leu Asn Val 45  
35 40 45  
Phe Ser Arg Val Lys Leu Phe Gly Ser Lys Lys Arg Arg Arg Arg 60  
50 55 60  
Arg Pro Glu Pro Gln Leu Lys Gly Ile Val Thr Lys Leu Tyr Ser 75  
65 70 75  
Arg Gln Gly Tyr His Leu Gln Leu Gln Ala Asp Gly Thr Ile Asp 90  
80 85 90  
Gly Thr Lys Asp Glu Asp Ser Thr Tyr Thr Leu Phe Asn Leu Ile 105  
95 100 105  
Pro Val Gly Leu Arg Val Val Ala Ile Gln Gly Val Gln Thr Lys 120  
110 115 120  
Leu Tyr Leu Ala Met Asn Ser Glu Gly Tyr Leu Tyr Thr Ser Glu 135  
125 130 135  
Leu Phe Thr Pro Glu Cys Lys Phe Lys Glu Ser Val Phe Glu Asn 150  
140 145 150  
Tyr Tyr Val Thr Tyr Ser Ser Met Ile Tyr Arg Gln Gln Gln Ser 165  
155 160 165  
Gly Arg Gly Trp Tyr Leu Gly Leu Asn Lys Glu Gly Glu Ile Met 180  
170 175 180  
Lys Gly Asn His Val Lys Lys Asn Lys Pro Ala Ala His Phe Leu 195  
185 190 195  
Pro Lys Pro Leu Lys Val Ala Met Tyr Lys Glu Pro Ser Leu His 210  
200 205 210  
Asp Leu Thr Glu Phe Ser Arg Ser Gly Ser Gly Thr Pro Thr Lys

	215		220		225
Ser Arg Ser Val	Ser Gly Val Leu Asn Gly Gly Lys Ser Met Ser				
	230		235		240
His Asn Glu Ser Thr					
	245				

<210> 496  
 <211> 1471  
 <212> DNA  
 <213> Homo Sapien

<400> 496  
 ccaggatgga gctggggcct gtatagccat attattgttc tatgctacta 50  
 gacatggggg ggacttggtg aaaaaggtat tatccagcca gaggggtctgg 100  
 gagccctgtc ttactgaacc tgggcaacct ggatattctg agacatattt 150  
 tgggggggatt tcagtgaaaa aagtggggga tcccctccat ttagagtgtg 200  
 gcaaaggaaa aaacaccaag gttgggttcc ttcctgacat tggcagtgcc 250  
 ccagtagggg tgggatgagc gaatatccc aaagctaaag tcccacaccc 300  
 tgtagattac aagagtggat ttggcaggag tgtgccccaa aatacagtgg 350  
 aaaggtgcct gaagatattt aaaccacgtc ttggaaattt agtgggtctt 400  
 ggctttggga taggtgaagt gaggacagac actggagagg agggaaaggg 450  
 gacgttttca ataggaggca aaactcgagg gtgggatcca ctgaggagta 500  
 cataggctgc tggatctggt ggagccagca ctgggcccac ggggtggtaac 550  
 tggctgctgt ggaggggggt acgtgagggg ggggtctggg gcttatactc 600  
 aggtcctgtg ggtggggcag cgagtcgggg cctgagcgtc aagagcatgc 650  
 cctagtgagc gggctcctct gggggagccc agcgcgctcc gggcgctgc 700  
 cggtttgggg gtgtctcctc ccggggcgct atggcggcgc tggccagtag 750  
 cctgatccgg cagaagcggg aggtccgcga gcccgggggc agccggccgg 800  
 tgtcggcgca gcggcgctg tgtccccgcg gcaccaagtc cctttgccag 850  
 aagcagctcc tcatcctgct gtccaagggt cgactgtgcg gggggcggcc 900  
 cgcgcgccg gaccgcggcc cgagagcctca gctcaaaggc atcgtcacca 950  
 aactgttctg ccgccagggt ttctacctcc aggcgaatcc cgacggaagc 1000  
 atccagggca cccagagga taccagctcc ttcacccact tcaacctgat 1050  
 ccctgtgggc ctccgtgtgg tcaccatcca gagcgccaag ctgggtcact 1100  
 acatggccat gaatgtgag ggactgctct acagttcgcc gcatttcaca 1150  
 gctgagtgtc gctttaagga gtgtgtcttt gagaattact acgtcctgta 1200  
 cgcctctgct ctctaccgcc agcgtcgttc tggcggggcc tggtagctcg 1250

gcctggacaa ggagggccag gtcatgaagg gaaaccgagt taagaagacc 1300  
aaggcagctg cccactttct gcccaagctc ctggaggtgg ccatgtacca 1350  
ggagccttct ctccacagtg tccccgaggc ctccccctcc agtccccctg 1400  
ccccctgaaa tgtagtcctt ggactggagg ttccctgcac tcccagtgag 1450  
ccagccacca ccacaacctg t 1471

<210> 497  
<211> 225  
<212> PRT  
<213> Homo Sapien

<400> 497  
Met Ala Ala Leu Ala Ser Ser Leu Ile Arg Gln Lys Arg Glu Val  
1 5 10 15  
Arg Glu Pro Gly Gly Ser Arg Pro Val Ser Ala Gln Arg Arg Val  
20 25 30  
Cys Pro Arg Gly Thr Lys Ser Leu Cys Gln Lys Gln Leu Leu Ile  
35 40 45  
Leu Leu Ser Lys Val Arg Leu Cys Gly Gly Arg Pro Ala Arg Pro  
50 55 60  
Asp Arg Gly Pro Glu Pro Gln Leu Lys Gly Ile Val Thr Lys Leu  
65 70 75  
Phe Cys Arg Gln Gly Phe Tyr Leu Gln Ala Asn Pro Asp Gly Ser  
80 85 90  
Ile Gln Gly Thr Pro Glu Asp Thr Ser Ser Phe Thr His Phe Asn  
95 100 105  
Leu Ile Pro Val Gly Leu Arg Val Val Thr Ile Gln Ser Ala Lys  
110 115 120  
Leu Gly His Tyr Met Ala Met Asn Ala Glu Gly Leu Leu Tyr Ser  
125 130 135  
Ser Pro His Phe Thr Ala Glu Cys Arg Phe Lys Glu Cys Val Phe  
140 145 150  
Glu Asn Tyr Tyr Val Leu Tyr Ala Ser Ala Leu Tyr Arg Gln Arg  
155 160 165  
Arg Ser Gly Arg Ala Trp Tyr Leu Gly Leu Asp Lys Glu Gly Gln  
170 175 180  
Val Met Lys Gly Asn Arg Val Lys Lys Thr Lys Ala Ala Ala His  
185 190 195  
Phe Leu Pro Lys Leu Leu Glu Val Ala Met Tyr Gln Glu Pro Ser  
200 205 210  
Leu His Ser Val Pro Glu Ala Ser Pro Ser Ser Pro Pro Ala Pro  
215 220 225

<210> 498  
<211> 744

<212> DNA  
<213> Homo Sapien

<400> 498  
atggccgcgg ccacgcctag cggcttgatc cgccagaagc ggcaggcgcg 50  
ggagcagcac tgggaccggc cgtctgccag caggaggcgg agcagcccca 100  
gcaagaaccg cgggctctgc aacggcaacc tgggtgatat cttctccaaa 150  
gtgcgcatct tcggcctcaa gaagcgagg ttgctggcgc aagatcccca 200  
gctcaagggt atagtacca gggtatattg caggcaaggc tactacttgc 250  
aaatgcaccc cgatggagct ctgatggaa ccaaggatga cagcactaat 300  
tctacactct tcaacctcat accagtggga ctacgtgttg ttgccatcca 350  
gggagtgaac acagggttgt atatagccat gaatggagaa gggtacctct 400  
acccatcaga actttttacc cctgaatgca agtttaaaga atctgttttt 450  
gaaaattatt atgtaatcta ctcatccatg ttgtacagac aacaggaatc 500  
tggtagagcc tggtttttgg gattaaataa ggaagggcaa gctatgaaag 550  
ggaacagagt aaagaaaacc aaaccagcag ctcatcttct acccaagcca 600  
ttggaagttg ccatgtaccg agaaccatct ttgcatgatg ttggggaaac 650  
ggtcccgaag cctgggggtga cgccaagtaa aagcacaagt gcgtctgcaa 700  
taatgaatgg aggcaaacca gtcaacaaga gtaagacaac atag 744

<210> 499  
<211> 247  
<212> PRT  
<213> Homo Sapien

<400> 499  
Met Ala Ala Ala Ile Ala Ser Gly Leu Ile Arg Gln Lys Arg Gln  
1 5 10 15  
Ala Arg Glu Gln His Trp Asp Arg Pro Ser Ala Ser Arg Arg Arg  
20 25 30  
Ser Ser Pro Ser Lys Asn Arg Gly Leu Cys Asn Gly Asn Leu Val  
35 40 45  
Asp Ile Phe Ser Lys Val Arg Ile Phe Gly Leu Lys Lys Arg Arg  
50 55 60  
Leu Arg Arg Gln Asp Pro Gln Leu Lys Gly Ile Val Thr Arg Leu  
65 70 75  
Tyr Cys Arg Gln Gly Tyr Tyr Leu Gln Met His Pro Asp Gly Ala  
80 85 90  
Leu Asp Gly Thr Lys Asp Asp Ser Thr Asn Ser Thr Leu Phe Asn  
95 100 105  
Leu Ile Pro Val Gly Leu Arg Val Val Ala Ile Gln Gly Val Lys  
110 115 120

Thr Gly Leu Tyr	Ile Ala Met Asn Gly	Glu Gly Tyr Leu Tyr	Pro
	125	130	135
Ser Glu Leu Phe	Thr Pro Glu Cys Lys	Phe Lys Glu Ser Val	Phe
	140	145	150
Glu Asn Tyr Tyr	Val Ile Tyr Ser Ser	Met Leu Tyr Arg Gln	Gln
	155	160	165
Glu Ser Gly Arg	Ala Trp Phe Leu Gly	Leu Asn Lys Glu Gly	Gln
	170	175	180
Ala Met Lys Gly	Asn Arg Val Lys Lys	Thr Lys Pro Ala Ala	His
	185	190	195
Phe Leu Pro Lys	Pro Leu Glu Val Ala	Met Tyr Arg Glu Pro	Ser
	200	205	210
Leu His Asp Val	Gly Glu Thr Val Pro	Lys Pro Gly Val Thr	Pro
	215	220	225
Ser Lys Ser Thr	Ser Ala Ser Ala Ile	Met Asn Gly Gly Lys	Pro
	230	235	240
Val Asn Lys Ser	Lys Thr Thr		
	245		

<210> 500  
 <211> 2906  
 <212> DNA  
 <213> Homo Sapien

<400> 500  
 ggggagagga attgaccatg taaaaggaga cttttttttt tgggtggtggt 50  
 ggctgttggtg tgccttgcaa aatatgaagga tgcaggacgc agctttctoc 100  
 tggaaccgaa cgcaatggat aaactgattg tgcaagagag aaggaagaac 150  
 gaagcttttt cttgtgagcc ctggatctta acacaaatgt gtatatgtgc 200  
 acacagggag cattcaagaa tgaaataaac cagagttaga cccgcggggg 250  
 ttggtgtggt ctgacataaa taaataatct taaagcagct gttcccctcc 300  
 ccacccccaa aaaaaaggat gattggaaat gaagaaccga ggattcaca 350  
 agaaaaaagt atgttcattt ttctctataa aggagaaagt gagccaagga 400  
 gatatttttg gaatgaaaag tttggggcct ttttagtaaa gtaaagaact 450  
 ggtgtggtgg tgttttcctt tctttttgaa tttcccacaa gaggagagga 500  
 aattaataat acatctgcaa agaaatttca gagaagaaaa gttgaccgcg 550  
 gcagattgag gcattgattg ggggagagaa accagcagag cacagttgga 600  
 tttgtgcta tggtgactaa aattgacgga taattgcagt tggatttttc 650  
 ttcatacaacc tccttttttt taaattttta ttccttttgg tatcaagatc 700  
 atgcgttttc tcttgttctt aaccacctgg atttccatct ggatgttgct 750

gtgatcagtc tgaaatacaa ctgtttgaat tccagaagga ccaacaccag 800  
ataaattatg aatgttgaac aagatgacct tacatccaca gcagataatg 850  
ataggtccta ggtttaacag ggccctatctt gacccctgc ttgtggtgct 900  
gctggctctt caacttcttg tgggtgctgg tctggtgcgg gctcagacct 950  
gcccttctgt gtgctcctgc agcaaccagt tcagcaaggt gatttgtgtt 1000  
cggaaaaacc tgcgtgaggt tccggatggc atctccacca acacacggct 1050  
gctgaacctc catgagaacc aaatccagat catcaaagt aacagcttca 1100  
agcacttgag gcacttgga atcctacagt tgagtaggaa ccatatcaga 1150  
accattgaaa ttggggcttt caatggtctg gcgaacctca acactctgga 1200  
actctttgac aatcgtctta ctaccatccc gaatggagct tttgtatact 1250  
tgtctaaact gaaggagctc tggttgcgaa acaaccccat tgaaagcatc 1300  
ccttcttatg cttttaacag aattccttct ttgcgcgcac tagacttagg 1350  
ggaattgaaa agactttcat acatctcaga aggtgccttt gaaggtctgt 1400  
ccaacttgag gtatttgaac cttgccatgt gcaaccttcg ggaaatccct 1450  
aacctcacac cgctcataaa actagatgag ctggatcttt ctgggaatca 1500  
tttatctgcc atcaggcctg gctctttcca gggtttgatg caccttcaaa 1550  
aactgtggat gatacagtcc cagattcaag tgattgaacg gaatgccttt 1600  
gacaaccttc agtcactagt ggagatcaac ctggcacaca ataatctaac 1650  
attactgcct catgacctct tcaactccctt gcacatcta gagcggatac 1700  
atttacatca caacccttg aactgttaact gtgacatact gtggctcagc 1750  
tgggtgataa aagacatggc cccctcgaac acagcttggt gtgcccgggtg 1800  
taacactcct cccaatctaa aggggaggta cattggagag ctcgaccaga 1850  
attacttcac atgctatgct ccggtgattg tggagcccc tgcagacctc 1900  
aatgtcactg aaggcatggc agctgagctg aaatgtcggg cctccacatc 1950  
cctgacatct gtatcttgga ttactccaaa tggaacagtc atgacacatg 2000  
gggcgtaaaa agtgcggtata gctgtgctca gtgatggtag gttaaatttc 2050  
acaaatgtaa ctgtgcaaga tacaggcatg tacacatgta tggtagtaaa 2100  
ttccgttggg aatactactg cttcagccac cctgaatgtt actgcagcaa 2150  
ccactactcc tttctcttac ttttcaaccg tcacagtaga gactatggaa 2200  
ccgtctcagg atgaggcacg gaccacagat aacaatgtgg gtcccactcc 2250  
agtggctgac tgggagacca ccaatgtgac cacctctctc acaccacaga 2300  
gcacaaggtc gacagagaaa accttcacca tcccagtgac tgatataaac 2350

agtgggatcc caggaattga tgaggtcatg aagactacca aaatcatcat 2400  
 tgggtgtttt gtggccatca cactcatggc tgcaagtgatg ctggtcattt 2450  
 tctacaagat gaggaagcag caccatcggc aaaaccatca cgccccaaca 2500  
 aggactgttg aaattattaa tgtggatgat gagattacgg gagacacacc 2550  
 catggaaagc cacctgcccc tgccctgctat cgagcatgag cacctaaatc 2600  
 actataactc atacaaatct cccttcaacc acacaacaac agttaacaca 2650  
 ataaattcaa tacacagttc agtgcataaa ccgttattga tccgaatgaa 2700  
 ctctaaagac aatgtacaag agactcaaat ctaaaacatt tacagagtta 2750  
 caaaaaaaca acaatcaaaa aaaaagacag tttattaaaa atgacacaaa 2800  
 tgactgggct aaatctactg tttcaaaaaa gtgtctttac aaaaaaaca 2850  
 aaaagaaaag aaatttattt attaaaaatt ctattgtgat ctaaagcaga 2900  
 caaaaa 2906

<210> 501  
 <211> 640  
 <212> PRT  
 <213> Homo Sapien

<400> 501  
 Met Leu Asn Lys Met Thr Leu His Pro Gln Gln Ile Met Ile Gly  
 1 5 10 15  
 Pro Arg Phe Asn Arg Ala Leu Phe Asp Pro Leu Leu Val Val Leu  
 20 25 30  
 Leu Ala Leu Gln Leu Leu Val Val Ala Gly Leu Val Arg Ala Gln  
 35 40 45  
 Thr Cys Pro Ser Val Cys Ser Cys Ser Asn Gln Phe Ser Lys Val  
 50 55 60  
 Ile Cys Val Arg Lys Asn Leu Arg Glu Val Pro Asp Gly Ile Ser  
 65 70 75  
 Thr Asn Thr Arg Leu Leu Asn Leu His Glu Asn Gln Ile Gln Ile  
 80 85 90  
 Ile Lys Val Asn Ser Phe Lys His Leu Arg His Leu Glu Ile Leu  
 95 100 105  
 Gln Leu Ser Arg Asn His Ile Arg Thr Ile Glu Ile Gly Ala Phe  
 110 115 120  
 Asn Gly Leu Ala Asn Leu Asn Thr Leu Glu Leu Phe Asp Asn Arg  
 125 130 135  
 Leu Thr Thr Ile Pro Asn Gly Ala Phe Val Tyr Leu Ser Lys Leu  
 140 145 150  
 Lys Glu Leu Trp Leu Arg Asn Asn Pro Ile Glu Ser Ile Pro Ser  
 155 160 165

Tyr	Ala	Phe	Asn	Arg	Ile	Pro	Ser	Leu	Arg	Arg	Leu	Asp	Leu	Gly	170	175	180
Glu	Leu	Lys	Arg	Leu	Ser	Tyr	Ile	Ser	Glu	Gly	Ala	Phe	Glu	Gly	185	190	195
Leu	Ser	Asn	Leu	Arg	Tyr	Leu	Asn	Leu	Ala	Met	Cys	Asn	Leu	Arg	200	205	210
Glu	Ile	Pro	Asn	Leu	Thr	Pro	Leu	Ile	Lys	Leu	Asp	Glu	Leu	Asp	215	220	225
Leu	Ser	Gly	Asn	His	Leu	Ser	Ala	Ile	Arg	Pro	Gly	Ser	Phe	Gln	230	235	240
Gly	Leu	Met	His	Leu	Gln	Lys	Leu	Trp	Met	Ile	Gln	Ser	Gln	Ile	245	250	255
Gln	Val	Ile	Glu	Arg	Asn	Ala	Phe	Asp	Asn	Leu	Gln	Ser	Leu	Val	260	265	270
Glu	Ile	Asn	Leu	Ala	His	Asn	Asn	Leu	Thr	Leu	Leu	Pro	His	Asp	275	280	285
Leu	Phe	Thr	Pro	Leu	His	His	Leu	Glu	Arg	Ile	His	Leu	His	His	290	295	300
Asn	Pro	Trp	Asn	Cys	Asn	Cys	Asp	Ile	Leu	Trp	Leu	Ser	Trp	Trp	305	310	315
Ile	Lys	Asp	Met	Ala	Pro	Ser	Asn	Thr	Ala	Cys	Cys	Ala	Arg	Cys	320	325	330
Asn	Thr	Pro	Pro	Asn	Leu	Lys	Gly	Arg	Tyr	Ile	Gly	Glu	Leu	Asp	335	340	345
Gln	Asn	Tyr	Phe	Thr	Cys	Tyr	Ala	Pro	Val	Ile	Val	Glu	Pro	Pro	350	355	360
Ala	Asp	Leu	Asn	Val	Thr	Glu	Gly	Met	Ala	Ala	Glu	Leu	Lys	Cys	365	370	375
Arg	Ala	Ser	Thr	Ser	Leu	Thr	Ser	Val	Ser	Trp	Ile	Thr	Pro	Asn	380	385	390
Gly	Thr	Val	Met	Thr	His	Gly	Ala	Tyr	Lys	Val	Arg	Ile	Ala	Val	395	400	405
Leu	Ser	Asp	Gly	Thr	Leu	Asn	Phe	Thr	Asn	Val	Thr	Val	Gln	Asp	410	415	420
Thr	Gly	Met	Tyr	Thr	Cys	Met	Val	Ser	Asn	Ser	Val	Gly	Asn	Thr	425	430	435
Thr	Ala	Ser	Ala	Thr	Leu	Asn	Val	Thr	Ala	Ala	Thr	Thr	Thr	Pro	440	445	450
Phe	Ser	Tyr	Phe	Ser	Thr	Val	Thr	Val	Glu	Thr	Met	Glu	Pro	Ser	455	460	465
Gln	Asp	Glu	Ala	Arg	Thr	Thr	Asp	Asn	Asn	Val	Gly	Pro	Thr	Pro	470	475	480



Val	Val	Asp	Trp	Glu	Thr	Thr	Asn	Val	Thr	Thr	Ser	Leu	Thr	Pro	
				485					490					495	
Gln	Ser	Thr	Arg	Ser	Thr	Glu	Lys	Thr	Phe	Thr	Ile	Pro	Val	Thr	
				500					505					510	
Asp	Ile	Asn	Ser	Gly	Ile	Pro	Gly	Ile	Asp	Glu	Val	Met	Lys	Thr	
				515					520					525	
Thr	Lys	Ile	Ile	Ile	Gly	Cys	Phe	Val	Ala	Ile	Thr	Leu	Met	Ala	
				530					535					540	
Ala	Val	Met	Leu	Val	Ile	Phe	Tyr	Lys	Met	Arg	Lys	Gln	His	His	
				545					550					555	
Arg	Gln	Asn	His	His	Ala	Pro	Thr	Arg	Thr	Val	Glu	Ile	Ile	Asn	
				560					565					570	
Val	Asp	Asp	Glu	Ile	Thr	Gly	Asp	Thr	Pro	Met	Glu	Ser	His	Leu	
				575					580					585	
Pro	Met	Pro	Ala	Ile	Glu	His	Glu	His	Leu	Asn	His	Tyr	Asn	Ser	
				590					595					600	
Tyr	Lys	Ser	Pro	Phe	Asn	His	Thr	Thr	Thr	Val	Asn	Thr	Ile	Asn	
				605					610					615	
Ser	Ile	His	Ser	Ser	Val	His	Glu	Pro	Leu	Leu	Ile	Arg	Met	Asn	
				620					625					630	
Ser	Lys	Asp	Asn	Val	Gln	Glu	Thr	Gln	Ile						
				635					640						

<210> 502  
 <211> 2458  
 <212> DNA  
 <213> Homo Sapien

<400> 502  
 gcgccgggag cccatctgcc ccaggggca cggggcgcg ggccggctcc 50  
 cgcccggcac atggctgcag ccacctcgcg cgcaccccga ggccgcgcgc 100  
 ccagctcgcc cgaggtccgt cggaggcgcc cggccgcccc ggagccaagc 150  
 agcaactgag cggggaagcg ccgcgctccg gggatcggga tgtccctcct 200  
 ccttctcctc ttgctagttt cctactatgt tggaaccttg gggactcaca 250  
 ctgagatcaa gagagtggca gaggaaaagg tcactttgcc ctgccaccat 300  
 caactggggc ttccagaaaa agacactctg gatattgaat ggctgctcac 350  
 cgataatgaa gggaacaaaa aagtggatgat cacttactcc agtcgtcatg 400  
 tctacaataa cttgactgag gaacagaagg gccgagtggc ctttgcttcc 450  
 aatttcctgg caggagatgc ctcttgacag attgaacctc tgaagcccag 500  
 tgatgagggc cggtaacact gtaaggttaa gaattcaggg cgctacgtgt 550  
 ggagccatgt catcttaaaa gtcttagtga gaccatcaa gcccgaagtgt 600

gagttggaag gagagctgac agaaggaagt gacctgactt tgcagtgtga 650  
gtcatcctct ggcacagagc ccatttgtga ttactggcag cgaatccgag 700  
agaaagaggg agaggatgaa cgtctgcctc ccaaattctag gattgactac 750  
aaccaccctg gacgagttct gctgcagaat cttaccatgt cctactctgg 800  
actgtaccag tgcacagcag gcaacgaagc tgggaaggaa agctgtgtgg 850  
tgcgagtaac tgtacagtat gtacaaagca tcggcatggg tgcaggagca 900  
gtgacaggca tagtggctgg agccctgctg attttcctct tgggtgtggct 950  
gctaattccg aggaaagaca aagaaagata tgaggaagaa gagagaccta 1000  
atgaaattcg agaagatgct gaagctccaa aagcccgctt tgtgaaacct 1050  
agctcctctt cctcaggctc tcggagctca cgctctgggt cttcctccac 1100  
tcgctccaca gcaaatagtg cctcacgcag ccagcggaca ctgtcaactg 1150  
acgcagcacc ccagccaggg ctggccaccc aggcatacag cctagtgggg 1200  
ccagaggtga gaggttctga accaaagaaa gtccaccatg ctaattctgac 1250  
caaagcagaa accacacca gcatgatccc cagccagagc agagccttcc 1300  
aaacggtctg aattacaatg gacttgactc ccacgctttc ctaggagtca 1350  
gggtcttttg actcttctcg tcattggagc tcaagtcacc agccacacaa 1400  
ccagatgaga ggtcatctaa gtagcagtga gcattgcacg gaacagattc 1450  
agatgagcat tttccttata caataccaaa caagcaaaag gatgtaagct 1500  
gattcatctg taaaaaggca tcttattgtg ctttagacc agagtaaggg 1550  
aaagcaggag tccaaatcta tttgttgacc aggacctgtg gtgagaagg 1600  
tggggaaagg tgaggatgaat atacctaaaa cttttaatgt gggatatttt 1650  
gtatcagtgc tttgattcac aattttcaag aggaaatggg atgctgtttg 1700  
taaatcttct atgcatttct gcaaacttat tggattatta gttattcaga 1750  
cagtcaagca gaaccacag ccttattaca cctgtctaca ccatgtactg 1800  
agctaaccac ttctaagaaa ctccaaaaaa ggaaacatgt gtcttctatt 1850  
ctgacttaac ttcatttgtc ataaggtttg gatattaatt tcaaggggag 1900  
ttgaaatagt gggagatgga gaagagtga tgagtttctc ccactctata 1950  
ctaattctac tatttgtatt gagcccaaaa taactatgaa aggagacaaa 2000  
aatttgtgac aaaggattgt gaagagcttt ccatcttcat gatgttatga 2050  
ggattgttga caaacattag aaatatataa tggagcaatt gtggatttcc 2100  
cctcaaatac gatgcctcta aggactttcc tgctagatat ttctggaagg 2150  
agaaaataca acatgtcatt tatcaacgtc cttagaaaga attcttctag 2200

agaaaaaggg atctaggaat gctgaaagat tacccaacat accattatag 2250  
tctcttcttt ctgagaaaat gtgaaaccag aattgcaaga ctgggtggac 2300  
tagaaagggg gattagatca gttttctctt aatatgtcaa ggaaggtagc 2350  
cgggcatggg gccaggcacc tgtaggaaaa tccagcaggt ggaggttgca 2400  
gtgagccgag attatgccat tgcactccag cctgggtgac agagcgggac 2450  
tccgtctc 2458

<210> 503  
<211> 373  
<212> PRT  
<213> Homo Sapien

<400> 503  
Met Ser Leu Leu Leu Leu Leu Leu Val Ser Tyr Tyr Val Gly  
1 5 10 15  
Thr Leu Gly Thr His Thr Glu Ile Lys Arg Val Ala Glu Glu Lys  
20 25 30  
Val Thr Leu Pro Cys His His Gln Leu Gly Leu Pro Glu Lys Asp  
35 40 45  
Thr Leu Asp Ile Glu Trp Leu Leu Thr Asp Asn Glu Gly Asn Gln  
50 55 60  
Lys Val Val Ile Thr Tyr Ser Ser Arg His Val Tyr Asn Asn Leu  
65 70 75  
Thr Glu Glu Gln Lys Gly Arg Val Ala Phe Ala Ser Asn Phe Leu  
80 85 90  
Ala Gly Asp Ala Ser Leu Gln Ile Glu Pro Leu Lys Pro Ser Asp  
95 100 105  
Glu Gly Arg Tyr Thr Cys Lys Val Lys Asn Ser Gly Arg Tyr Val  
110 115 120  
Trp Ser His Val Ile Leu Lys Val Leu Val Arg Pro Ser Lys Pro  
125 130 135  
Lys Cys Glu Leu Glu Gly Glu Leu Thr Glu Gly Ser Asp Leu Thr  
140 145 150  
Leu Gln Cys Glu Ser Ser Ser Gly Thr Glu Pro Ile Val Tyr Tyr  
155 160 165  
Trp Gln Arg Ile Arg Glu Lys Glu Gly Glu Asp Glu Arg Leu Pro  
170 175 180  
Pro Lys Ser Arg Ile Asp Tyr Asn His Pro Gly Arg Val Leu Leu  
185 190 195  
Gln Asn Leu Thr Met Ser Tyr Ser Gly Leu Tyr Gln Cys Thr Ala  
200 205 210  
Gly Asn Glu Ala Gly Lys Glu Ser Cys Val Val Arg Val Thr Val  
215 220 225

Gln Tyr Val Gln	Ser Ile Gly Met Val	Ala Gly Ala Val Thr Gly	230	235	240
Ile Val Ala Gly	Ala Leu Leu Ile Phe	Leu Leu Val Trp Leu Leu	245	250	255
Ile Arg Arg Lys	Asp Lys Glu Arg Tyr	Glu Glu Glu Glu Arg Pro	260	265	270
Asn Glu Ile Arg	Glu Asp Ala Glu Ala	Pro Lys Ala Arg Leu Val	275	280	285
Lys Pro Ser Ser	Ser Ser Ser Gly Ser	Arg Ser Ser Arg Ser Gly	290	295	300
Ser Ser Ser Thr	Arg Ser Thr Ala Asn	Ser Ala Ser Arg Ser Gln	305	310	315
Arg Thr Leu Ser	Thr Asp Ala Ala Pro	Gln Pro Gly Leu Ala Thr	320	325	330
Gln Ala Tyr Ser	Leu Val Gly Pro Glu	Val Arg Gly Ser Glu Pro	335	340	345
Lys Lys Val His	His Ala Asn Leu Thr	Lys Ala Glu Thr Thr Pro	350	355	360
Ser Met Ile Pro	Ser Gln Ser Arg Ala	Phe Gln Thr Val	365	370	

<210> 504  
 <211> 3060  
 <212> DNA  
 <213> Homo Sapien

<400> 504  
 cgcgaggcgc ggggagcctg ggaccaggag cgagagccgc ctacctgcag 50  
 ccgccgcccc cggcacggca gccaccatgg cgctcctgct gtgcttctgtg 100  
 ctctgtgtcg gtagtagtga tttcgccaga agtttgagta tcactactcc 150  
 tgaagagatg attgaaaaag ccaaagggga aactgcctat ctgccatgca 200  
 aatttacgct tagtcccga gaccagggac cgctggacat cgagtggctg 250  
 atatcaccag ctgataatca gaagtgat caagtgatta ttttatattc 300  
 tggagacaaa atttatgatg actactatcc agatctgaaa ggccgagtac 350  
 attttacgag taatgatctc aaatctggtg atgcatcaat aaatgtaacg 400  
 aatttacaac tgtcagatat tggcacatat cagtgcacaa tgaaaaaagc 450  
 tcctggtgtt gcaaataaga agattcatct ggtagttctt gttaagcctt 500  
 cagggtgcgag atgttacgtt gatggatctg aagaaattgg aagtgaacttt 550  
 aagataaaat gtgaaccaa agaaggttca cttccattac agtatgagtg 600  
 gcaaaaattg tctgactcac agaaaatgcc cacttcatgg ttagcagaaa 650  
 tgacttcac tgttatatct gtaaaaaatg cctcttctga gtactctggg 700

acatacagct gtacagtcag aaacagagtg ggctctgac agtgccctgtt 750  
 gcgtctaaac gttgtccctc cttcaaataa agctggacta attgcaggag 800  
 ccattatagg aactttgctt gctctagcgc tcattggtct tatcatcttt 850  
 tgctgtcgta aaaagcgcag agaagaaaaa tatgaaaagg aagttcatca 900  
 cgatatcagg gaagatgtgc cacctccaaa gagccgtacg tccactgcca 950  
 gaagctacat cggcagtaat cattcatccc tgggggtccat gtctccttcc 1000  
 aacatggaag gatattccaa gactcagtat aaccaagtac caagtgaaga 1050  
 ctttgaacgc actcctcaga gtccgactct cccacctgct aagttcaagt 1100  
 acccttaciaa gactgatgga attacagttg tataaatatg gactactgaa 1150  
 gaatctgaag tattgtatta tttgacttta ttttaggcct ctagtaaaga 1200  
 cttaaatgtt ttttaaaaaa agcacaaggc acagagatta gagcagctgt 1250  
 aagaacacat ctactttatg caatggcatt agacatgtaa gtcagatgtc 1300  
 atgtcaaaat tagtacgagc caaattcttt gttaaaaaac cctatgtata 1350  
 gtgacactga tagttaaag atgttttatt atattttcaa taactaccac 1400  
 taacaaattt ttaacttttc atatgcatat tctgatatgt ggtcttttag 1450  
 gaaaagtatg gttaatagtt gatttttcaa aggaaatttt aaaattctta 1500  
 cgttctgttt aatgtttttg ctatttagtt aaatacattg aagggaata 1550  
 cccgttcttt tcccctttta tgcacacaac agaaacacgc gttgtcatgc 1600  
 ctcaaactat tttttatttg caactacatg atttcacaca attctcttaa 1650  
 acaacgacat aaaatagatt tccttgata taaataactt acatacgctc 1700  
 cataaagtaa attctcaaag gtgctagaac aaatcgcca cttctacagt 1750  
 gttctcgtat ccaacagagt tgatgcacaa tatataaata ctcaagtcca 1800  
 atattaaaaa cttaggcact tgactaaact taataaaatt tctcaacta 1850  
 tatcaatatc taaagtgc atatttttta agaaagatta ttctcaataa 1900  
 cttctataaa aataagtttg atggtttggc ccatctaact tcaactat 1950  
 tagtaagaac ttttaacttt taatgtgtag taaggtttat tctacctttt 2000  
 tctcaacatg acaccaacac aatcaaaaac gaagttagtg aggtgctaac 2050  
 atgtgaggat taatccagt attccggtca caatgcattc caggaggagg 2100  
 taccatgtc actggaattg ggcgatatgg tttatttttt cttccctgat 2150  
 ttggataacc aaatggaaca ggaggaggat agtgattctg atggccattc 2200  
 cctcgataca ttctggctt ttttctgggc aaagggtgcc acattggaag 2250  
 aggtggaaat ataagttctg aaatctgtag ggaagagaac acattaagtt 2300

aattcaaagg aaaaaatcat catctatggt ccagatttct cattaaagac 2350  
aaagttaccc acaacactga gatcacatct aagtgacact cctattgtca 2400  
ggtctaaata cattaaaaac ctcatgtgta ataggcgtat aatgtataac 2450  
aggtgaccaa tgttttctga atgcataaag aaatgaataa actcaaacac 2500  
agtacttcct aaacaacttc aacccaaaaa gacccaaaaca tggaacgaat 2550  
ggaagcttgt aaggacatgc ttgttttagt ccagtgggtt ccacagctgg 2600  
ctaagccagg agtcacttgg aggttttta atacaaaaca ttggagctgg 2650  
aggccattat ccttagcaaa ctaatgcaga aacagaaaat caactaccgc 2700  
atgttctcac ttataagtgg gaggtaatga taagaactta tgaacacaaa 2750  
gaaggaaaca atagacattg gagtctatit gagaggggag ggtgggagaa 2800  
ggaaaaggag cagaaaagat aactattgag tactgccttc acacctgggt 2850  
gatgaaataa tatgtacaac aaatccctgt gacacatggt tacctatgga 2900  
acaaaccttc atgtgtatcc ctaaacctaa aataaaagt aaaaaaaaaa 2950  
aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 3000  
aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 3050  
aaaaaaaaa 3060

<210> 505  
<211> 352  
<212> PRT  
<213> Homo Sapien

<400> 505  
Met Ala Leu Leu Leu Cys Phe Val Leu Leu Cys Gly Val Val Asp  
1 5 10 15  
Phe Ala Arg Ser Leu Ser Ile Thr Thr Pro Glu Glu Met Ile Glu  
20 25 30  
Lys Ala Lys Gly Glu Thr Ala Tyr Leu Pro Cys Lys Phe Thr Leu  
35 40 45  
Ser Pro Glu Asp Gln Gly Pro Leu Asp Ile Glu Trp Leu Ile Ser  
50 55 60  
Pro Ala Asp Asn Gln Lys Val Asp Gln Val Ile Ile Leu Tyr Ser  
65 70 75  
Gly Asp Lys Ile Tyr Asp Asp Tyr Tyr Pro Asp Leu Lys Gly Arg  
80 85 90  
Val His Phe Thr Ser Asn Asp Leu Lys Ser Gly Asp Ala Ser Ile  
95 100 105  
Asn Val Thr Asn Leu Gln Leu Ser Asp Ile Gly Thr Tyr Gln Cys  
110 115 120  
Lys Val Lys Lys Ala Pro Gly Val Ala Asn Lys Lys Ile His Leu

	125	130	135
Val Val Leu Val	Lys 140	Pro Ser Gly Ala Arg 145	Cys Tyr Val Asp Gly 150
Ser Glu Glu Ile	Gly 155	Ser Asp Phe Lys 160	Ile Lys Cys Glu Pro Lys 165
Glu Gly Ser Leu	Pro 170	Leu Gln Tyr Glu Trp 175	Gln Lys Leu Ser Asp 180
Ser Gln Lys Met	Pro 185	Thr Ser Trp Leu Ala 190	Glu Met Thr Ser Ser 195
Val Ile Ser Val	Lys 200	Asn Ala Ser Ser Glu 205	Tyr Ser Gly Thr Tyr 210
Ser Cys Thr Val	Arg 215	Asn Arg Val Gly Ser 220	Asp Gln Cys Leu Leu 225
Arg Leu Asn Val	Val 230	Pro Pro Ser Asn Lys 235	Ala Gly Leu Ile Ala 240
Gly Ala Ile Ile	Gly 245	Thr Leu Leu Ala Leu 250	Ala Leu Ile Gly Leu 255
Ile Ile Phe Cys	Cys 260	Arg Lys Lys Arg Arg 265	Glu Glu Lys Tyr Glu 270
Lys Glu Val His	His 275	Asp Ile Arg Glu Asp 280	Val Pro Pro Pro Lys 285
Ser Arg Thr Ser	Thr 290	Ala Arg Ser Tyr Ile 295	Gly Ser Asn His Ser 300
Ser Leu Gly Ser	Met 305	Ser Pro Ser Asn Met 310	Glu Gly Tyr Ser Lys 315
Thr Gln Tyr Asn	Gln 320	Val Pro Ser Glu Asp 325	Phe Glu Arg Thr Pro 330
Gln Ser Pro Thr	Leu 335	Pro Pro Ala Lys Phe 340	Lys Tyr Pro Tyr Lys 345
Thr Asp Gly Ile	Thr 350	Val Val	

<210> 506  
 <211> 1705  
 <212> DNA  
 <213> Homo Sapien

<400> 506  
 tgaaatgact tccacggctg ggacgggaac cttccaccca cagctatgcc 50  
 tctgattggg gaatggtgaa ggtgcctgtc taacttttct gtaaaaagaa 100  
 ccagctgcct ccaggcagcc agccctcaag catcacttac aggaccagag 150  
 ggacaagaca tgactgtgat gaggagctgc tttcgccaat ttaacaccaa 200  
 gaagaattga ggctgcttgg gaggaaggcc aggaggaaca cgagactgag 250

agatgaattt tcaacagagg ctgcaaagcc tgtggacttt agccagaccc 300  
 ttctgccctc ctttgctggc gacagcctct caaatgcaga tggttgtgct 350  
 cccttgccctg ggttttaccc tgctttctctg gagccaggta tcagggggccc 400  
 agggccaaga attccacttt gggccctgcc aagtgaaggg ggttggtccc 450  
 cagaaactgt gggaagcctt ctgggctgtg aaagacacta tgcaagctca 500  
 ggataacatc acgagtgcgc ggctgctgca gcaggagggt ctgcagaacg 550  
 tctcggatgc tgagagctgt taccttgctc acaccctgct ggagttctac 600  
 ttgaaaactg ttttcaaaaa ccaccacaat agaacagttg aagtcaggac 650  
 tctgaagtca ttctctactc tggccaacaa ctttggttctc atcgtgtcac 700  
 aactgcaacc cagtcaagaa aatgagatgt tttccatcag agacagtgc 750  
 cacaggcggg ttctgctatt ccggagagca ttcaaacagt tggacgtaga 800  
 agcagctctg accaaagccc ttgggggaagt ggacattctt ctgacctgga 850  
 tgcagaaatt ctacaagctc tgaatgtcta gaccaggacc tccctcccc 900  
 tggcactggg ttgttccctg tgtcatttca aacagtctcc cttcctatgc 950  
 tgttctactg acacttcacg cccttggcca tgggtcccat tcttggccca 1000  
 ggattattgt caaagaagtc attctttaag cagcgccagt gacagtcagg 1050  
 gaagggtgct ctggatgctg tgaagagtct acagagaaga ttcttgtatt 1100  
 tattacaact ctatttaatt aatgtcagta tttcaactga agttctatct 1150  
 atttgtgaga ctgtaagtta catgaaggca gcagaatatt gtgccccatg 1200  
 cttctttacc cctcacaatc cttgccacag tgtggggcag tggatgggtg 1250  
 cttagtaagt acttaataaa ctgtggtgct ttttttggcc tgtctttgga 1300  
 ttgttaaaaa acagagaggg atgcttggat gtaaaactga acttcagagc 1350  
 atgaaaatca cactgtcttc tgatatctgc agggacagag cattgggggtg 1400  
 ggggtaaggt gcatctgttt gaaaagtaaa cgataaaatg tggattaaag 1450  
 tgcccagcac aaagcagatc ctcaataaac atttcatttc cccccacac 1500  
 tcgccagctc accccatcat ccttttccct tgggtgccctc cttttttttt 1550  
 tatcctagtc attcttccct aatcttccac ttgagtgtca agctgacctt 1600  
 gctgatgggtg acattgcacc tggatgtact atccaatctg tgatgacatt 1650  
 cctgtctaatt aaaagacaac ataactccaa aaaaaaaaaa aaaaaaaaaa 1700  
 aaaaa 1705

<210> 507  
 <211> 206  
 <212> PRT



<213> Homo Sapien

<400> 507

Met	Asn	Phe	Gln	Gln	Arg	Leu	Gln	Ser	Leu	Trp	Thr	Leu	Ala	Arg	
1				5					10					15	
Pro	Phe	Cys	Pro	Pro	Leu	Leu	Ala	Thr	Ala	Ser	Gln	Met	Gln	Met	
				20					25					30	
Val	Val	Leu	Pro	Cys	Leu	Gly	Phe	Thr	Leu	Leu	Leu	Trp	Ser	Gln	
				35					40					45	
Val	Ser	Gly	Ala	Gln	Gly	Gln	Glu	Phe	His	Phe	Gly	Pro	Cys	Gln	
				50					55					60	
Val	Lys	Gly	Val	Val	Pro	Gln	Lys	Leu	Trp	Glu	Ala	Phe	Trp	Ala	
				65					70					75	
Val	Lys	Asp	Thr	Met	Gln	Ala	Gln	Asp	Asn	Ile	Thr	Ser	Ala	Arg	
				80					85					90	
Leu	Leu	Gln	Gln	Glu	Val	Leu	Gln	Asn	Val	Ser	Asp	Ala	Glu	Ser	
				95					100					105	
Cys	Tyr	Leu	Val	His	Thr	Leu	Leu	Glu	Phe	Tyr	Leu	Lys	Thr	Val	
				110					115					120	
Phe	Lys	Asn	His	His	Asn	Arg	Thr	Val	Glu	Val	Arg	Thr	Leu	Lys	
				125					130					135	
Ser	Phe	Ser	Thr	Leu	Ala	Asn	Asn	Phe	Val	Leu	Ile	Val	Ser	Gln	
				140					145					150	
Leu	Gln	Pro	Ser	Gln	Glu	Asn	Glu	Met	Phe	Ser	Ile	Arg	Asp	Ser	
				155					160					165	
Ala	His	Arg	Arg	Phe	Leu	Leu	Phe	Arg	Arg	Ala	Phe	Lys	Gln	Leu	
				170					175					180	
Asp	Val	Glu	Ala	Ala	Leu	Thr	Lys	Ala	Leu	Gly	Glu	Val	Asp	Ile	
				185					190					195	
Leu	Leu	Thr	Trp	Met	Gln	Lys	Phe	Tyr	Lys	Leu					
				200					205						

<210> 508

<211> 924

<212> DNA

<213> Homo Sapien

<400> 508

aaggagcagc cgcgaagcac caagtgaag gcatgaagtt acagtgtgtt 50  
tccctttggc tcctgggtac aatactgata ttgtgctcag tagacaacca 100  
cggctctcagg agatgtctga tttccacaga catgcacat atagaagaga 150  
gtttccaaga aatcaaaaga gccatccaag ctaaggacac cttcccaaat 200  
gtcactatcc tgtccacatt ggagactctg cagatcatta agcccttaga 250  
tgtgtgctgc gtgaccaaga acctcctggc gttctacgtg gacaggggtg 300

tcaaggatca tcaggagcca aacccccaaaa tcttgagaaa aatcagcagc 350  
attgccaaact ctttcctcta catgcagaaa actctgcggc aatgtcagga 400  
acagaggcag tgtcactgca ggcaggaagc caccaatgcc accagagtca 450  
tccatgacaa ctatgatcag ctggagggtcc acgctgctgc cattaatatcc 500  
ctgggagagc tcgacgtctt tctagcctgg attaataaga atcatgaagt 550  
aatgtttctca gcttgatgac aaggaacctg tatagtgatc cagggatgaa 600  
caccctctgt gcggtttact gtgggagaca gccacacctg aaggggaagg 650  
agatggggaa ggccccttgc agctgaaagt cccactggct ggcctcaggc 700  
tgtcttattc cgcttgaaaa taggcaaaaa gtctactgtg gtatttgtaa 750  
taaactctat ctgctgaaag ggctgcagg ccatcctggg agtaaagggc 800  
tgccttccca tctaatttat tgtaaagtca tatagtccat gtctgtgatg 850  
tgagccaagt gatatcctgt agtacacatt gtactgagtg gtttttctga 900  
ataaattcca tattttacct atga 924

<210> 509  
<211> 177  
<212> PRT  
<213> Homo Sapien

<400> 509  
Met Lys Leu Gln Cys Val Ser Leu Trp Leu Leu Gly Thr Ile Leu  
1 5 10 15  
Ile Leu Cys Ser Val Asp Asn His Gly Leu Arg Arg Cys Leu Ile  
20 25 30  
Ser Thr Asp Met His His Ile Glu Glu Ser Phe Gln Glu Ile Lys  
35 40 45  
Arg Ala Ile Gln Ala Lys Asp Thr Phe Pro Asn Val Thr Ile Leu  
50 55 60  
Ser Thr Leu Glu Thr Leu Gln Ile Ile Lys Pro Leu Asp Val Cys  
65 70 75  
Cys Val Thr Lys Asn Leu Leu Ala Phe Tyr Val Asp Arg Val Phe  
80 85 90  
Lys Asp His Gln Glu Pro Asn Pro Lys Ile Leu Arg Lys Ile Ser  
95 100 105  
Ser Ile Ala Asn Ser Phe Leu Tyr Met Gln Lys Thr Leu Arg Gln  
110 115 120  
Cys Gln Glu Gln Arg Gln Cys His Cys Arg Gln Glu Ala Thr Asn  
125 130 135  
Ala Thr Arg Val Ile His Asp Asn Tyr Asp Gln Leu Glu Val His  
140 145 150  
Ala Ala Ala Ile Lys Ser Leu Gly Glu Leu Asp Val Phe Leu Ala

155

160

165

Trp Ile Asn Lys Asn His Glu Val Met Phe Ser Ala  
170 175

&lt;210&gt; 510

&lt;211&gt; 996

&lt;212&gt; DNA

&lt;213&gt; Homo Sapien

&lt;400&gt; 510

cccggtgccaa gagtgacgta agtaccgcct atagagtcta taggcccact 50  
tggcttcggtt agaacgcggc tacaattaat acataacctt atgtatcata 100  
cacatacgat ttaggtgaca ctatagaata acatccactt tgcctttctc 150  
tccacaggtg tccactocca ggtccaaactg cacctcgggt ctatcgataa 200  
tctcagcacc agccactcag agcagggcac gatgttgggg gcccgccctca 250  
ggctctgggt ctgtgccttg tgcagcgtct gcagcatgag cgtcctcaga 300  
gcctatccca atgcctcccc actgctcggc tccagctggg gtggcctgat 350  
ccacctgtac acagccacag ccaggaacag ctaccacctg cagatccaca 400  
agaatggcca tgtggatggc gcaccccatc agaccatcta cagtgccttg 450  
atgatcagat cagaggatgc tggctttgtg gtgattacag gtgtgatgag 500  
cagaagatac ctctgcatgg atttcagagg caacattttt ggatcacact 550  
atttcgaccc ggagaactgc aggttccaac accagacgct ggaaaacggg 600  
tacgacgtct accactctcc tcagtatcac ttcttggtca gtctgggccg 650  
ggcgaagaga gccttcctgc caggcatgaa cccacccccg tactcccagt 700  
tcctgtcccc gaggaacgag atccccctaa ttcaattcaa ccccccata 750  
ccacggcggc acacccggag cgccgaggac gactcggagc gggaccccct 800  
gaacgtgctg aagccccggg cccggatgac cccggccccg gcctcctgtt 850  
cacaggagct cccgagcgcc gaggacaaca gcccgatggc cagtgaccca 900  
ttaggggtgg tcaggggcgg tcgagtgaac acgcacgctg ggggaacggg 950  
cccggaaggc tgccgcccct tcgccaagtt catctagggt cgctgg 996

&lt;210&gt; 511

&lt;211&gt; 251

&lt;212&gt; PRT

&lt;213&gt; Homo Sapien

&lt;400&gt; 511

Met Leu Gly Ala Arg Leu Arg Leu Trp Val Cys Ala Leu Cys Ser  
1 5 10 15  
Val Cys Ser Met Ser Val Leu Arg Ala Tyr Pro Asn Ala Ser Pro  
20 25 30

Leu	Leu	Gly	Ser	Ser	Trp	Gly	Gly	Leu	Ile	His	Leu	Tyr	Thr	Ala	35	40	45
Thr	Ala	Arg	Asn	Ser	Tyr	His	Leu	Gln	Ile	His	Lys	Asn	Gly	His	50	55	60
Val	Asp	Gly	Ala	Pro	His	Gln	Thr	Ile	Tyr	Ser	Ala	Leu	Met	Ile	65	70	75
Arg	Ser	Glu	Asp	Ala	Gly	Phe	Val	Val	Ile	Thr	Gly	Val	Met	Ser	80	85	90
Arg	Arg	Tyr	Leu	Cys	Met	Asp	Phe	Arg	Gly	Asn	Ile	Phe	Gly	Ser	95	100	105
His	Tyr	Phe	Asp	Pro	Glu	Asn	Cys	Arg	Phe	Gln	His	Gln	Thr	Leu	110	115	120
Glu	Asn	Gly	Tyr	Asp	Val	Tyr	His	Ser	Pro	Gln	Tyr	His	Phe	Leu	125	130	135
Val	Ser	Leu	Gly	Arg	Ala	Lys	Arg	Ala	Phe	Leu	Pro	Gly	Met	Asn	140	145	150
Pro	Pro	Pro	Tyr	Ser	Gln	Phe	Leu	Ser	Arg	Arg	Asn	Glu	Ile	Pro	155	160	165
Leu	Ile	His	Phe	Asn	Thr	Pro	Ile	Pro	Arg	Arg	His	Thr	Arg	Ser	170	175	180
Ala	Glu	Asp	Asp	Ser	Glu	Arg	Asp	Pro	Leu	Asn	Val	Leu	Lys	Pro	185	190	195
Arg	Ala	Arg	Met	Thr	Pro	Ala	Pro	Ala	Ser	Cys	Ser	Gln	Glu	Leu	200	205	210
Pro	Ser	Ala	Glu	Asp	Asn	Ser	Pro	Met	Ala	Ser	Asp	Pro	Leu	Gly	215	220	225
Val	Val	Arg	Gly	Gly	Arg	Val	Asn	Thr	His	Ala	Gly	Gly	Thr	Gly	230	235	240
Pro	Glu	Gly	Cys	Arg	Pro	Phe	Ala	Lys	Phe	Ile					245	250	

<210> 512  
 <211> 2015  
 <212> DNA  
 <213> Homo Sapien

<400> 512  
 ggaaaaggta cccgcgagag acagccagca gttctgtgga gcagcgggtgg 50  
 ccggctagga tgggctgtct ctgggggtctg gctctgcccc ttttcttctt 100  
 ctgctgggag gttggggtct ctgggagctc tgcaggcccc agcaccgcga 150  
 gagcagacac tgcgatgaca acggacgaca cagaagtgcc cgctatgact 200  
 ctagcaccgg gccacgccgc tctggaaact caaacgctga gcgctgagac 250  
 ctcttctagg gcctcaacct cagccggccc cattccagaa gcagagacca 300

ggggagccaa gagaatttcc cctgcaagag agaccaggag tttcacaaaa 350  
 acatctccca acttcatggt gctgatcgcc acctcogtgg agacatcagc 400  
 cgccagtggc agccccgagg gagctggaat gaccacagtt cagaccatca 450  
 caggcagtga tcccaggagaa gccatctttg acaccctttg caccgatgac 500  
 agctctgaag aggcaaagac actcacaatg gacatattga cattgggtca 550  
 cacctccaca gaagctaagg gcctgtcctc agagagcagt gcctcttccg 600  
 acggccccca tccagtcac acccgtcac gggcctcaga gagcagcgcc 650  
 tcttccgacg gccccatcc agtcacacc ccgtcacggg cctcagagag 700  
 cagcgctct tccgacggcc cccatccagt catcaccccg tcatggtccc 750  
 cgggatctga tgtcactctc ctgctgaag ccctggtgac tgtcacaaac 800  
 atcgaggtta ttaattgcag catcacagaa atagaaacaa caacttccag 850  
 catccctggg gcctcagaca tagatctcat cccacggaa ggggtgaagg 900  
 cctcgtccac ctccgatcca ccagctctgc ctgactccac tgaagcaaaa 950  
 ccacacatca ctgaggtcac agcctctgcc gagaccctgt ccacagccgg 1000  
 caccacagag tcagctgcac ctcatgccac ggttgggacc ccaactccca 1050  
 ctaacagcgc cacagaaaga gaagtgcag caccggggc caccgacctc 1100  
 agtggagctc tggtcacagt tagcaggaat cccctggaag aaacctcagc 1150  
 cctctctgtt gagacacaa gttacgtcaa agtctcagga gcagctccgg 1200  
 tctccataga ggctgggtca gcagtgggca aaacaacttc ctttgctggg 1250  
 agctctgctt cctcctacag cccctcgga gccgacctca agaacttcac 1300  
 cccttcagag acaccgacca tggacatcgc aaccaagggg cccttcccca 1350  
 ccagcagga ccctcttct tctgtccctc cgactacaac caacagcagc 1400  
 cgagggacga acagcacctt agccaagatc acaacctcag cgaagaccac 1450  
 gatgaagccc caacagccac gccacgact gcccgacga ggccgaccac 1500  
 agacgtgagt gcaggtgaaa atggaggttt cctcctcctg cggtgagtg 1550  
 tggcttcccc ggaagacctc actgaccca gagtggcaga aaggctgatg 1600  
 cagcagctcc accgggaact ccacgccac gcgcctcact tccaggtctc 1650  
 cttactgctt gtcaggagag gctaacggac atcagctgca gccaggcatg 1700  
 tcccgatatgc caaaagaggg tgctgcccct agcctgggccc cccaccgaca 1750  
 gactgcagct gcgttactgt gctgagaggt acccagaagg tttccatgaa 1800  
 gggcagcatg tccaagcccc taaccccaga tgtggcaaca ggacctcgc 1850  
 tcacatccac cggagtgtat gtatggggag gggcttcacc tgttcccaga 1900

gggtgtccttg gactcacctt ggcacatggt ctgtgtttca gtaaagagag 1950  
 acctgatcac ccattctgtgt gcttccatcc tgcattaaaa ttcactcagt 2000  
 gtggcccaaa aaaaa 2015

<210> 513  
 <211> 482  
 <212> PRT  
 <213> Homo Sapien

<400> 513  
 Met Gly Cys Leu Trp Gly Leu Ala Leu Pro Leu Phe Phe Phe Cys  
 1 5 10 15  
 Trp Glu Val Gly Val Ser Gly Ser Ser Ala Gly Pro Ser Thr Arg  
 20 25 30  
 Arg Ala Asp Thr Ala Met Thr Thr Asp Asp Thr Glu Val Pro Ala  
 35 40 45  
 Met Thr Leu Ala Pro Gly His Ala Ala Leu Glu Thr Gln Thr Leu  
 50 55 60  
 Ser Ala Glu Thr Ser Ser Arg Ala Ser Thr Pro Ala Gly Pro Ile  
 65 70 75  
 Pro Glu Ala Glu Thr Arg Gly Ala Lys Arg Ile Ser Pro Ala Arg  
 80 85 90  
 Glu Thr Arg Ser Phe Thr Lys Thr Ser Pro Asn Phe Met Val Leu  
 95 100 105  
 Ile Ala Thr Ser Val Glu Thr Ser Ala Ala Ser Gly Ser Pro Glu  
 110 115 120  
 Gly Ala Gly Met Thr Thr Val Gln Thr Ile Thr Gly Ser Asp Pro  
 125 130 135  
 Glu Glu Ala Ile Phe Asp Thr Leu Cys Thr Asp Asp Ser Ser Glu  
 140 145 150  
 Glu Ala Lys Thr Leu Thr Met Asp Ile Leu Thr Leu Ala His Thr  
 155 160 165  
 Ser Thr Glu Ala Lys Gly Leu Ser Ser Glu Ser Ser Ala Ser Ser  
 170 175 180  
 Asp Gly Pro His Pro Val Ile Thr Pro Ser Arg Ala Ser Glu Ser  
 185 190 195  
 Ser Ala Ser Ser Asp Gly Pro His Pro Val Ile Thr Pro Ser Arg  
 200 205 210  
 Ala Ser Glu Ser Ser Ala Ser Ser Asp Gly Pro His Pro Val Ile  
 215 220 225  
 Thr Pro Ser Trp Ser Pro Gly Ser Asp Val Thr Leu Leu Ala Glu  
 230 235 240  
 Ala Leu Val Thr Val Thr Asn Ile Glu Val Ile Asn Cys Ser Ile  
 245 250 255

Thr	Glu	Ile	Glu	Thr	Thr	Thr	Ser	Ser	Ile	Pro	Gly	Ala	Ser	Asp	260	265	270
Ile	Asp	Leu	Ile	Pro	Thr	Glu	Gly	Val	Lys	Ala	Ser	Ser	Thr	Ser	275	280	285
Asp	Pro	Pro	Ala	Leu	Pro	Asp	Ser	Thr	Glu	Ala	Lys	Pro	His	Ile	290	295	300
Thr	Glu	Val	Thr	Ala	Ser	Ala	Glu	Thr	Leu	Ser	Thr	Ala	Gly	Thr	305	310	315
Thr	Glu	Ser	Ala	Ala	Pro	His	Ala	Thr	Val	Gly	Thr	Pro	Leu	Pro	320	325	330
Thr	Asn	Ser	Ala	Thr	Glu	Arg	Glu	Val	Thr	Ala	Pro	Gly	Ala	Thr	335	340	345
Thr	Leu	Ser	Gly	Ala	Leu	Val	Thr	Val	Ser	Arg	Asn	Pro	Leu	Glu	350	355	360
Glu	Thr	Ser	Ala	Leu	Ser	Val	Glu	Thr	Pro	Ser	Tyr	Val	Lys	Val	365	370	375
Ser	Gly	Ala	Ala	Pro	Val	Ser	Ile	Glu	Ala	Gly	Ser	Ala	Val	Gly	380	385	390
Lys	Thr	Thr	Ser	Phe	Ala	Gly	Ser	Ser	Ala	Ser	Ser	Tyr	Ser	Pro	395	400	405
Ser	Glu	Ala	Ala	Leu	Lys	Asn	Phe	Thr	Pro	Ser	Glu	Thr	Pro	Thr	410	415	420
Met	Asp	Ile	Ala	Thr	Lys	Gly	Pro	Phe	Pro	Thr	Ser	Arg	Asp	Pro	425	430	435
Leu	Pro	Ser	Val	Pro	Pro	Thr	Thr	Thr	Asn	Ser	Ser	Arg	Gly	Thr	440	445	450
Asn	Ser	Thr	Leu	Ala	Lys	Ile	Thr	Thr	Ser	Ala	Lys	Thr	Thr	Met	455	460	465
Lys	Pro	Gln	Gln	Pro	Arg	Pro	Arg	Leu	Pro	Gly	Arg	Gly	Arg	Pro	470	475	480

Gln Thr

<210> 514  
 <211> 2284  
 <212> DNA  
 <213> Homo Sapien

<400> 514  
 gcggagcatc cgctgcggtc ctgcgcgaga ccccgcgcg gattcgccgg 50  
 tccttccgc gggcgcgaca gagctgtcct cgcacctgga tggcagcagg 100  
 ggcgcgggg tcctctcgac gccagagaga aatctcatca tctgtgcagc 150  
 cttcttaaag caaactaaga ccagagggag gattatcctt gacctttgaa 200  
 gaccaaaact aaactgaaat ttaaaatggt cttcggggga gaaggagct 250

tgacttacac tttggtaata atttgcttcc tgacactaag gctgtctgct 300  
 agtcagaatt gcctcaaaaa gagtctagaa gatgttgtca ttgacatcca 350  
 gtcattctctt tctaagggaa tcagaggcaa tgagcccgtata taaacttcaa 400  
 ctcaagaaga ctgcattaat tcttgctgtt caacaaaaaa catatcaggg 450  
 gacaaagcat gtaacttgat gatcttcgac actcgaaaaa cagctagaca 500  
 acccaactgc tacctatctt tctgtccaa cgaggaagcc tgtccattga 550  
 aaccagcaaa aggacttatg agttacagga taattacaga ttttccatct 600  
 ttgaccagaa atttgccaag ccaagagtta cccaggaag attctctctt 650  
 acatggccaa ttttcacaag cagtactcc cctagcccat catcacacag 700  
 attattcaaa gccacccgat atctcatgga gagacacact ttctcagaag 750  
 tttggatcct cagatcacct ggagaaacta tttaagatgg atgaagcaag 800  
 tgcccagctc cttgcttata aggaaaaagg ccattctcag agttcacaat 850  
 tttcctctga tcaagaaata gctcatctgc tgccgaaaaa tgtgagtgcg 900  
 ctcccagcta cgggtggcagt tgcttctcca cataccacct cggctactcc 950  
 aaagcccgcc acccttctac ccaccaatgc ttcagtgaac ccttctggga 1000  
 cttcccagcc acagctggcc accacagctc cacctgtaac cactgtcact 1050  
 tctcagcctc ccacgacct catttctaca gtttttacac gggctgcggc 1100  
 tacactccaa gcaatggcta caacagcagt tctgactacc acctttcagg 1150  
 cacctacgga ctcgaaaggc agcttagaaa ccataccgtt tacagaaatc 1200  
 tccaacttaa ctttgaacac agggaaatgtg tataacccta ctgcactttc 1250  
 tatgtcaaat gtggagtctt ccactatgaa taaaactgct tccctgggaag 1300  
 gtagggaggc cagtccaggc agttcctccc agggcagtggt tccagaaaat 1350  
 cagtacggcc ttccatttga aaaatggctt cttatcgggt ccctgctctt 1400  
 tgggtgtctg ttcttggtga taggcctcgt cctcctgggt agaatccttt 1450  
 cggaatcact ccgcaggaaa cgtaactcaa gactggatta ttgatcaat 1500  
 gggatctatg tggacatcta aggatggaac tcggtgtctc ttaattcatt 1550  
 tagtaaccag aagcccaaat gcaatgagtt tctgctgact tgctagtctt 1600  
 agcaggaggt tgtattttga agacaggaaa atgccccctt ctgctttcct 1650  
 tttttttttt ggagacagag tcttgctctg ttgcccaggc tggagtgcag 1700  
 tagcacgac tcggctctca ccgcaacctc cgtctcctgg gttcaagcga 1750  
 ttctcctgcc tcagcctcct aagtatctgg gattacaggc atgtgccacc 1800  
 acacctgggt gatttttgta ttttagtag agacggggtt tcacctggt 1850



gggtcaggctg gtctcaaact cctgacctag tgatccaccc tcctcggcct 1900  
 cccaaagtgc tgggattaca ggcattgagcc accacagctg gcccccttct 1950  
 gttttatgtt tgggttttga gaaggaatga agtgggaacc aaattaggta 2000  
 attttgggta atctgtctct aaaatattag ctaaaaacaa agctctatgt 2050  
 aaagtaataa agtataattg ccatataaat ttcaaaattc aactggcttt 2100  
 tatgcaaaga aacagggttag gacatctagg ttccaattca ttcacattct 2150  
 tggttccaga taaaatcaac tgtttatatc aatttctaata ggatttgctt 2200  
 ttctttttat atggattcct ttaaaactta ttccagatgt agttccttcc 2250  
 aattaaatat ttgaataaat cttttgttac tcaa 2284

<210> 515  
 <211> 431  
 <212> PRT  
 <213> Homo Sapien

<400> 515  
 Met Phe Phe Gly Gly Glu Gly Ser Leu Thr Tyr Thr Leu Val Ile  
 1 5 10 15  
 Ile Cys Phe Leu Thr Leu Arg Leu Ser Ala Ser Gln Asn Cys Leu  
 20 25 30  
 Lys Lys Ser Leu Glu Asp Val Val Ile Asp Ile Gln Ser Ser Leu  
 35 40 45  
 Ser Lys Gly Ile Arg Gly Asn Glu Pro Val Tyr Thr Ser Thr Gln  
 50 55 60  
 Glu Asp Cys Ile Asn Ser Cys Cys Ser Thr Lys Asn Ile Ser Gly  
 65 70 75  
 Asp Lys Ala Cys Asn Leu Met Ile Phe Asp Thr Arg Lys Thr Ala  
 80 85 90  
 Arg Gln Pro Asn Cys Tyr Leu Phe Phe Cys Pro Asn Glu Glu Ala  
 95 100 105  
 Cys Pro Leu Lys Pro Ala Lys Gly Leu Met Ser Tyr Arg Ile Ile  
 110 115 120  
 Thr Asp Phe Pro Ser Leu Thr Arg Asn Leu Pro Ser Gln Glu Leu  
 125 130 135  
 Pro Gln Glu Asp Ser Leu Leu His Gly Gln Phe Ser Gln Ala Val  
 140 145 150  
 Thr Pro Leu Ala His His His Thr Asp Tyr Ser Lys Pro Thr Asp  
 155 160 165  
 Ile Ser Trp Arg Asp Thr Leu Ser Gln Lys Phe Gly Ser Ser Asp  
 170 175 180  
 His Leu Glu Lys Leu Phe Lys Met Asp Glu Ala Ser Ala Gln Leu  
 185 190 195

Leu	Ala	Tyr	Lys	Glu	Lys	Gly	His	Ser	Gln	Ser	Ser	Gln	Phe	Ser	
				200					205					210	
Ser	Asp	Gln	Glu	Ile	Ala	His	Leu	Leu	Pro	Glu	Asn	Val	Ser	Ala	
				215					220					225	
Leu	Pro	Ala	Thr	Val	Ala	Val	Ala	Ser	Pro	His	Thr	Thr	Ser	Ala	
				230					235					240	
Thr	Pro	Lys	Pro	Ala	Thr	Leu	Leu	Pro	Thr	Asn	Ala	Ser	Val	Thr	
				245					250					255	
Pro	Ser	Gly	Thr	Ser	Gln	Pro	Gln	Leu	Ala	Thr	Thr	Ala	Pro	Pro	
				260					265					270	
Val	Thr	Thr	Val	Thr	Ser	Gln	Pro	Pro	Thr	Thr	Leu	Ile	Ser	Thr	
				275					280					285	
Val	Phe	Thr	Arg	Ala	Ala	Ala	Thr	Leu	Gln	Ala	Met	Ala	Thr	Thr	
				290					295					300	
Ala	Val	Leu	Thr	Thr	Thr	Phe	Gln	Ala	Pro	Thr	Asp	Ser	Lys	Gly	
				305					310					315	
Ser	Leu	Glu	Thr	Ile	Pro	Phe	Thr	Glu	Ile	Ser	Asn	Leu	Thr	Leu	
				320					325					330	
Asn	Thr	Gly	Asn	Val	Tyr	Asn	Pro	Thr	Ala	Leu	Ser	Met	Ser	Asn	
				335					340					345	
Val	Glu	Ser	Ser	Thr	Met	Asn	Lys	Thr	Ala	Ser	Trp	Glu	Gly	Arg	
				350					355					360	
Glu	Ala	Ser	Pro	Gly	Ser	Ser	Ser	Gln	Gly	Ser	Val	Pro	Glu	Asn	
				365					370					375	
Gln	Tyr	Gly	Leu	Pro	Phe	Glu	Lys	Trp	Leu	Leu	Ile	Gly	Ser	Leu	
				380					385					390	
Leu	Phe	Gly	Val	Leu	Phe	Leu	Val	Ile	Gly	Leu	Val	Leu	Leu	Gly	
				395					400					405	
Arg	Ile	Leu	Ser	Glu	Ser	Leu	Arg	Arg	Lys	Arg	Tyr	Ser	Arg	Leu	
				410					415					420	
Asp	Tyr	Leu	Ile	Asn	Gly	Ile	Tyr	Val	Asp	Ile					
				425					430						

<210> 516  
 <211> 2749  
 <212> DNA  
 <213> Homo Sapien

<220>  
 <221> unsure  
 <222> 1869, 1887  
 <223> unknown base

<400> 516  
 ctcccacggt gtccagcgcc cagaatgcgg cttctggtcc tgctatgggg 50  
 ttgctgctg ctcccaggtt atgaagccct ggagggccca gaggaaatca 100

gcggggttcga aggggacact gtgtccctgc agtgcaccta caggggaagag 150  
 ctgaggggacc accggaagta ctggtgcagg aaggggtggga tcctctttctc 200  
 togetgctct ggcaccatct atgcagaaga agaaggccag gagacaatga 250  
 agggcaggggt gtccatccgt gacagccgcc aggagctctc gtcattgtg 300  
 accctgtgga acctcacct gcaagacgct ggggagtact ggtgtggggt 350  
 cgaaaaacgg ggccccgatg agtctttaact gatctctctg ttctgttttc 400  
 caggaccctg ctgtcctccc tccccttctc ccaccttcca gcctctggct 450  
 acaacacgcc tgcagcccaa ggcaaaagct cagcaaacc agccccag 500  
 attgacttct cctgggctct acccggcage caccacagcc aagcagggga 550  
 agacaggggc tgaggccct ccattgccag ggacttcca gtacgggcac 600  
 gaaaggactt ctcagtacac aggaacctct cctcaccag cgacctctcc 650  
 tcctgcagg agctccgcc ccccatgca gctggactcc acctcagcag 700  
 aggacaccag tccagctctc agcagtggca gctctaagcc caggggtgtcc 750  
 atcccgatgg tccgcatact ggccccagtc ctggtgctgc tgagccttct 800  
 gtcagccgca ggctgatcg ccttctgcag ccacctgctc ctgtggagaa 850  
 aggaagctca acaggccacg gagacacaga ggaacgagaa gttctggctc 900  
 tcacgcttga ctgcggagga aaaggaagcc ccttcccagg ccctgaggg 950  
 ggacgtgatc tcgatgcct cctccacac atctgaggag gagctgggct 1000  
 tctcgaagtt tgtctcagcg tagggcagga ggccctcctg gccaggccag 1050  
 cagtgaagca gtatggctgg ctggatcagc accgattccc gaaagctttc 1100  
 cacctcagcc tcagagtcca gctgcccgga ctccagggt ctccccaccc 1150  
 tccccaggct ctctcttgc atgttccagc ctgacctaga agcgtttgtc 1200  
 agccctggag ccagagcgg tggccttget cttccggctg gagactggga 1250  
 catccctgat aggttcacat ccctgggcag agtaccaggc tgetgacct 1300  
 cagcagggcc agacaaggct cagtggatct ggtctgagtt tcaatctgcc 1350  
 aggaactcct gggcctcatg ccagtgctg gacctgcct tcctcccact 1400  
 ccagacccca cttgtcttc cctccctggc gtcctcagac ttagtccac 1450  
 ggtctcctgc atcagctggt gatgaagagg agcatgctgg ggtgagactg 1500  
 ggattctggc ttctcttga accacctgca tccagccctt caggaagcct 1550  
 gtgaaaaacg tgattcctgg cccaccaag accaccaaa accatctctg 1600  
 ggcttggctg aggactctga attotaacaa tgcccagtga ctgtcgact 1650  
 tgagtttgag ggccagtgg cctgatgaac gctcacacc cttcagctta 1700

gagtctgcat ttgggctgtg acgtctccac ctgcccacat agatctgctc 1750  
 tgtctgcgac accagatcca cgtggggact cccctgaggc. ctgctaagtc 1800  
 caggccttgg tcaggtcagg tgcacattgc aggataagcc caggaccggc 1850  
 acagaagtgg ttgcctttnc catttgcctt ccctggncca tgccttcttg 1900  
 ccttttgaaa aaatgatgaa gaaaaccttg gctccttcct tgtctggaaa 1950  
 gggttacttg cctatgggtt ctgggtggcta gagagaaaag tagaaaacca 2000  
 gagtgcacgt aggtgtctaa cacagaggag agtaggaaca gggcggatac 2050  
 ctgaaggtga ctccgagtcc agccccctgg agaaggggtc ggggggtggtg 2100  
 gtaaagtagc acaactacta ttttttttct ttttccatta ttattgtttt 2150  
 ttaagacaga atctcgtgct gctgcccagg ctggagtgca gtggcacgat 2200  
 ctgcaaaactc cgctccttg gttcaagtga ttcttctgcc tcagcctccc 2250  
 gagtagctgg gattacaggc acgcaccacc acacctggct aatttttgta 2300  
 ctttttagtag agatgggggtt tcaccatggt ggccaggctg gtcttgaact 2350  
 cctgacctca aatgagcctc ctgcttcagt ctcccaaatt gccgggatta 2400  
 caggcatgag ccaactgtgtc tggccctatt tcctttaaaa agtgaaatta 2450  
 agagttgttc agtatgcaaa acttggaag atggaggaga aaaagaaaag 2500  
 gaagaaaaaa atgtcaccca tagtctcacc agagactatc attatttcgt 2550  
 tttgttgtag ttcttccac tcttttcttc ttacataat ttgccggtgt 2600  
 tctttttaca gagcaattat cttgtatata caactttgta tcctgccttt 2650  
 tccaccttat cgttccatca ctttattcca gcacttctct gtgttttaca 2700  
 gaccttttta taaataaaat gttcatcagc tgcataaaaa aaaaaaaaaa 2749

<210> 517  
 <211> 332  
 <212> PRT  
 <213> Homo Sapien

<400> 517  
 Met Arg Leu Leu Val Leu Leu Trp Gly Cys Leu Leu Leu Pro Gly  
 1 5 10 15  
 Tyr Glu Ala Leu Glu Gly Pro Glu Glu Ile Ser Gly Phe Glu Gly  
 20 25 30  
 Asp Thr Val Ser Leu Gln Cys Thr Tyr Arg Glu Glu Leu Arg Asp  
 35 40 45  
 His Arg Lys Tyr Trp Cys Arg Lys Gly Gly Ile Leu Phe Ser Arg  
 50 55 60  
 Cys Ser Gly Thr Ile Tyr Ala Glu Glu Glu Gly Gln Glu Thr Met  
 65 70 75

Lys Gly Arg Val	Ser Ile Arg Asp Ser Arg	Gln Glu Leu Ser Leu	80	85	90
Ile Val Thr Leu	Trp Asn Leu Thr Leu	Gln Asp Ala Gly Glu Tyr	95	100	105
Trp Cys Gly Val	Glu Lys Arg Gly Pro	Asp Glu Ser Leu Leu Ile	110	115	120
Ser Leu Phe Val	Phe Pro Gly Pro Cys	Cys Pro Pro Ser Pro Ser	125	130	135
Pro Thr Phe Gln	Pro Leu Ala Thr Thr	Arg Leu Gln Pro Lys Ala	140	145	150
Lys Ala Gln Gln	Thr Gln Pro Pro Gly	Leu Thr Ser Pro Gly Leu	155	160	165
Tyr Pro Ala Ala	Thr Thr Ala Lys Gln	Gly Lys Thr Gly Ala Glu	170	175	180
Ala Pro Pro Leu	Pro Gly Thr Ser Gln	Tyr Gly His Glu Arg Thr	185	190	195
Ser Gln Tyr Thr	Gly Thr Ser Pro His	Pro Ala Thr Ser Pro Pro	200	205	210
Ala Gly Ser Ser	Arg Pro Pro Met Gln	Leu Asp Ser Thr Ser Ala	215	220	225
Glu Asp Thr Ser	Pro Ala Leu Ser Ser	Gly Ser Ser Lys Pro Arg	230	235	240
Val Ser Ile Pro	Met Val Arg Ile Leu	Ala Pro Val Leu Val Leu	245	250	255
Leu Ser Leu Leu	Ser Ala Ala Gly Leu	Ile Ala Phe Cys Ser His	260	265	270
Leu Leu Leu Trp	Arg Lys Glu Ala Gln	Gln Ala Thr Glu Thr Gln	275	280	285
Arg Asn Glu Lys	Phe Trp Leu Ser Arg	Leu Thr Ala Glu Glu Lys	290	295	300
Glu Ala Pro Ser	Gln Ala Pro Glu Gly	Asp Val Ile Ser Met Pro	305	310	315
Pro Leu His Thr	Ser Glu Glu Glu Leu	Gly Phe Ser Lys Phe Val	320	325	330

Ser Ala

<210> 518

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 518

ccctgcagtg cacctacagg gaag 24

<210> 519

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 519

ctgtcttccc ctgcttggt gtgg 24

<210> 520

<211> 47

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 520

ggtgcaggaa ggggtgggatc ctcttctctc gctgctctgg ccacatc 47

<210> 521

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 521

ccagtgcaca gcaggcaacg aagc 24

<210> 522

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 522

actaggctgt atgcctgggt gggc 24

<210> 523

<211> 43

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 523

gtatgtacaa agcatcggca tggttgcagg agcagtgaca ggc 43

<210> 524

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe  
 <400> 524  
 aatctcagca ccagccactc agagca 26  
 <210> 525  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> Synthetic oligonucleotide probe  
 <400> 525  
 gttaaagagg gtgcccttcc agcga 25  
 <210> 526  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> Synthetic oligonucleotide probe  
 <400> 526  
 tatcccaatg cctccccact gctc 24  
 <210> 527  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> Synthetic oligonucleotide probe  
 <400> 527  
 gatgaacttg gcgaaggggc ggca 24  
 <210> 528  
 <211> 30  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> Synthetic oligonucleotide probe  
 <400> 528  
 agggaggatt atccttgacc tttgaagacc 30  
 <210> 529  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> Synthetic oligonucleotide probe  
 <400> 529  
 gaagcaagtg cccagctc 18  
 <210> 530  
 <211> 18  
 <212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 530

cggtccctg ctctttgg 18

<210> 531

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 531

caccgtagct gggagcgac tcac 24

<210> 532

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 532

agtgttaagtc aagctccc 18